DOCUMENT RESUME

ED 053 748 LI 002 982

AUTHOR	Reneker, Maxine H.
TITLE	A Study of Book Thefts in Academic Libraries.
PUB DATE	Sep 70
NOTE	262p.; (30 References); A Dissertation Submitted to the Faculty of the Graduate Library School [Univ. of Chicago] in Candidacy for the Degree of Master of Arts
EDRS PRICE	EDRS Price MF-$0.65 HC-$9.87
DESCRIPTORS	*Book Thefts, *College Libraries, *Library Collections, *Library Expenditures, Library Surveys, Questionnaires, *Stealing, University Libraries
IDENTIFIERS	*Library Statistics

ABSTRACT

The 156 academic libraries serving student bodies of less than 5,000 students, reported an average loss of 230 volumes per year at a cost of approximately $2,875.00 to replace. This loss of one volume for every five students represents the staggering projected total of 1,440,000 volumes lost in the year 1968/69. There are two ways of viewing the loss problem. The first view is a careful examination of the type and subject matter of the material stolen. This is a longer-range goal which takes into consideration the reading needs of the students, why books are stolen, and whether or not the library is providing adequate services and materials. The second view considers control methods and ways of preventing loss of all types of material in the library's collection. (MM)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

ED053748

THE UNIVERSITY OF CHICAGO

A STUDY OF BOOK THEFTS IN ACADEMIC LIBRARIES

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE LIBRARY SCHOOL

IN CANDIDACY FOR THE DEGREE OF

MASTER OF ARTS

LI 002 982

BY

MAXINE H. RENEKER

CHICAGO, ILLINOIS

SEPTEMBER, 1970

ACKNOWLEDGMENTS

I am most grateful to the Council on Library Resources for the grant which funded processing the data in this study.

I also wish to thank my husband, David, and mother, Helen A. Hohman, for their assistance and encouragement throughout the entire project.

TABLE OF CONTENTS

	Page
LIST OF TABLES	iii
Chapter	
I. DISCUSSION OF THE LITERATURE	1
II. OBJECTIVES AND METHODOLOGY	7
III. LIBRARIANS' VIEWS OF THE LOSS PROBLEM	19
IV. CONTROL DEVICES	51
V. OTHER METHODS OF CONTROLLING THE LOSS PROBLEM	90
VI. LOSS FIGURES	119
VII. SUMMARY AND IMPLICATIONS OF THE DATA	183
Appendixes	
A. CHARACTERISTICS OF THE RESPONDENTS	203
B. SUPPLEMENTARY TABLES	220
C. QUESTIONNAIRE	242
BIBLIOGRAPHY	251

LIST OF TABLES

Table		Page
1.	Comparison of the Means for Selected Characteristics of the Population and the Respondents	11
2.	Comparison of the Means for Selected Characteristics of the Population and the Libraries Providing Loss Figures	14
3.	Comparison of the Means for Selected Characteristics of the Respondents and the Libraries Providing Loss Figures	15
4.	Seriousness of the Problem	21
5.	Financial Loss Versus Unavailability	22
6.	View of Loss Prevention	24
7.	Seriousness of the Problem: Financial Loss Versus Unavailability	27
8.	Seriousness of the Problem: View of Loss Prevention	28
9.	Actual Losses: Seriousness of the Problem	29
10.	Seriousness of the Problem: Change in Losses	31
11.	Control Devices: Seriousness of the Problem	32
12.	Seriousness of the Problem: Administrative Control	34
13.	Total Operating Expenditures: Seriousness of the Problem	35
14.	Number of Students: Seriousness of the Problem	36

Table		Page
15.	Total Circulation: Seriousness of the Problem. .	37
16.	Length of Librarian's Service in School: Seriousness of the Problem.	39
17.	Dollars Per Full-Time Equivalent Student: Financial Loss Versus Unavailability.	40
18.	Change in Losses: View of Loss Prevention. . . .	41
19.	Control Devices: View of Loss Prevention	43
20.	View of Loss Prevention: Administrative Control.	45
21.	Type of Institution: View of Loss Prevention . .	46
22.	Total Circulation: View of Loss Prevention . . .	48
23.	Number of Students: View of Loss Prevention. . .	49
24.	Control Devices	52
25.	Control Devices: Total Operating Expenditures. .	56
26.	Control Devices: Number of Students.	58
27.	Control Devices: Number of Volumes	59
28.	Control Devices: Dollars Per Full-Time Equivalent Student.	61
29.	Control Devices: Type of Institution	62
30.	Control Devices: Actual Losses	64
31.	Control Devices: Dates Installed or Discontinued	67
32.	Thorough Versus Cursory Inspection.	77
33.	Formal Disciplinary Measures.	78
34.	Effect of Control Devices on Change in Losses . .	80
35.	Attempts to Inform the Community.	91

Table		Page
36.	Student Concern	96
37.	Effect of Informing Community on Change in Book Losses	100
38.	Changes in Policies and Procedures	109
39.	Effect of Photocopying Equipment on Loss	111
40.	Photocopying Equipment in Library	112
41.	Not Having Photocopying Equipment in Library	114
42.	Availability of Stacks	117
43.	Regular Procedure for Ascertaining Losses	121
44.	Method Used to Collect Data	122
45.	Methods Used to Collect Data: Type of Institution	124
46.	Methods Used to Collect Data: Number of Volumes	126
47.	Methods Used to Collect Data: Total Operating Expenditures	127
48.	Methods Used to Collect Data: Actual Losses	129
49.	Change in Losses	132
50.	Actual Loss Figures	137
51.	Estimated Loss Figures	139
52.	Loss/Circulation Gathered by Inventories Taken More than One Year after Previous Inventory	142
53.	Percentage of the Change in Loss/Circulation Ratio After the Installation of Controls	148
54.	Means and Standard Deviations of Numeric Variables Used in Linear Regressions	156

Table | Page

55. Percentages of Non-Numeric Variables Used in Linear Regression 157

56. Simple Linear Regression of Loss Onto Number of Volumes 161

57. Simple Linear Regression of Loss Onto Circulation 162

58. Simple Linear Regression of Loss Onto Number of Students. 163

59. Simple Linear Regression of Loss Onto Professional Personnel in Full-Time Equivalents. 164

60. Simple Linear Regression of Loss Onto Total Operating Expenditures. 165

61. Simple Linear Regression of Loss Onto Book Expenditures. 166

62. Correlation Matrix. 168

63. Multiple Linear Regression with Loss as Dependent Variable. 173

64. Multiple Linear Regression with Loss/Students as Dependent Variable. 174

65. Multiple Linear Regression with Loss/Circulation as Dependent Variable 175

66. Multiple Linear Regression with Loss/Volumes as Dependent Variable. 176

67. Total Circulation 205

68. Reserve and Non-Reserve Circulation 206

69. Percentage of Students Living on Campus 207

70. Title of Respondent to Questionnaire. 209

Table		Page
71.	Length of Librarian's Service in Library and Profession.	210
72.	Public-Private Administrative Control	213
73.	Type of Institution	214
74.	Percentage of Graduate Students	215
75.	Number of Students.	216
76.	Number of Volumes	217
77.	Total Operating Expenditures.	218
78.	Expenditures for Books and Other Library Materials	219
79.	Complete List of Cross Tabulations.	221
80.	Actual Losses: Formal Disciplinary Measures. . .	223
81.	Number of Students: Effect of Control Devices on Change in Losses	224
82.	Book Expenditures: Effect on Control Devices on Change in Losses.	225
83.	Actual Losses: Attempt to Inform Community . . .	226
84.	Methods of Informing Community of Loss Problem: Number of Students.	227
85.	Methods of Informing Community of Loss Problem: Total Operating Expenditures.	228
86.	Methods of Informing Community of Loss Problem: Book Expenditure.	229
87.	Methods of Informing Community of Loss Problem: Number of Volumes	230
88.	Number of Students: Student Concern.	231
89.	Actual Losses: Student Concern	232

Table Page

90. Student Concern: Type of Institution 233

91. Percentage of Part-Time Undergraduates: Student Concern 234

92. Effect of Informing Community on Change in Losses: Effect of Control Devices on Change in Losses . 235

93. Attempt to Inform Community of Problem of Losses: Student Concern 236

94. Attempt to Inform Community: Effect of Informing Community on Change in Losses 237

95. Student Concern: Effect of Informing the Community 238

96. Actual Losses: Photocopying Equipment in Library 239

97. Total Circulation: Availability of Stacks to Undergraduates. 240

98. Actual Losses: Type of Institution 241

CHAPTER I

DISCUSSION OF THE LITERATURE

The problem of book loss through theft in libraries has been the subject of much discussion in library literature, but very little empirical or statistical evidence has been brought into these discussions. Helen Green[1] analyzed the articles indexed in Library Literature from 1953-1963, which dealt with the destruction of library materials by theft or mutilation. Her study determined the frequency of discussion of certain aspects of the subject, using thirty-eight articles published in sixteen journals during those ten years. She found that books were mentioned most frequently as the type of library material most often lost or mutilated; open shelves and the pressure of assignments, as factors contributing to theft and mutilation; lay borrowers, college and graduate students, as the people responsible for lost volumes; false borrower's cards, other false identification, and trickery, as the method of acquiring pilfered materials; personal use versus

---

[1]Helen Green, "Analysis of the Literature Dealing with Vandalism as Indexed in Library Literature 1953-63" (unpublished Master's thesis, Atlanta University, 1964).

selling the material, as the reason for taking material; security guards, librarians, and students, as the detectors of theft; and appealing to the patron's sense of values, security guards, and penalties, as the three out of the fifteen methods of curbing losses listed in the articles.

This study gives a good, broad overview of the aspects of the problem of book losses which have been presented in the literature. Many of these articles relate the experiences of one librarian in dealing with the problem or describe the situation at a particular library. Few of them contain figures showing the actual number of books lost over a given period of time. Notable exceptions are Burke's study,[1] done at the George Peabody College for Teachers Library, which found missing a mean of 13.8 per cent of the books listed in the shelf list for the ten subject categories he selected (the time since the previous inventory, if any, was not specified); Brown and Kilgour's study[2] at the Yale Medical Library comparing the figures for the disappearance of unbound journals with those

---

[1]John Emmett Burke, "Statistical Analysis of a College Library," Peabody Journal of Education, XXXI (July, 1953), 10-21.

[2]Madeleine Brown and Frederick G. Kilgour, "Disappearance of Unbound Journals," Medical Library Association Bulletin, XLIX (January, 1961), 68-71.

of other materials in the library; and Van Every's survey[1] of fifty public libraries. Of the thirty-two replies she received, the thirteen libraries which supplied figures based on inventories or estimates reported losses of approximately 0.1 to 0.5 per cent of their book stock per year.

William J. Greaney[2] undertook a statistical study of theft in high school libraries to determine the extent of loss and the number of damaged books in the senior high school libraries of Suffolk County (New York). The results of his study are based on a sample of nineteen questionnaires. The range of losses for the thirteen schools providing adequate data is between 0.8 per cent and 5.9 per cent of the library's collection for 1964-65 and between 0.8 per cent and 5.5 per cent for 1965-66, with a mean of 2.5 per cent for 1964-65 and 2.2 per cent for 1965-66. Computing the ratio of the number of books lost to the number of books acquired reveals an average for the thirteen schools of 22.7 per cent for 1964-65 and 19.7 per cent for 1965-66.

---

[1]Joan Van Every, "Is It Worth Doing Anything About Book Losses?" Library Journal, LXXXVII (September 1, 1962), 2842-2846.

[2]William J. Greaney, "An Investigation into the Problem of Lost and Damaged Books in the Senior High School Libraries of Suffolk County (New York)" (Unpublished Master's thesis, Graduate Library School, Long Island University, 1967).

Mary Quick, from a questionnaire survey of junior and senior high school libraries in Macomb County, Michigan, reported the following frequencies in number of volumes lost each year: 0-50, 9; 50-100, 3; 100-200, 5; and 200-300, 6. Distinguishing the loss in junior high school libraries from senior high schools, she provides the data that yearly book losses averaged 48 for the former, and 147, for the latter schools.[1]

No similar survey of losses in academic libraries has been reported, but there have been notable recent articles giving figures on the extent of losses in individual academic libraries. These articles include Irene Braden's report on a pilot inventory at Ohio State University in 1967,[2] which found missing an average of 4.37 per cent of the items searched. These searched items comprised about 1 per cent of the titles in the collection and Miss Braden notes that before this inventory, one had not been taken in decades. In an article by Perry Morrison,[3] detailing the methods employed in a lost book

---

[1]Mary Quick, "A Proposed Program for Reducing Book Losses" (Unpublished Master's thesis, School of Graduate Studies, Western Michigan University, 1964).

[2]Irene Braden, "Pilot Inventory of Library Holdings," ALA Bulletin (October, 1968), pp. 1129-1131.

[3]Perry Morrison, "Lost Book Campaign at Sacramento," Wilson Library Bulletin (February, 1966), pp. 526-529.

campaign at Sacramento State College, there is a table showing the figures for volumes lost from 1962 to 1965. The four inventories taken during those years showed losses ranging from 1.5 per cent to 0.7 per cent of the total collection. Matt Roberts, in an excellent article called "Guards, Turnstiles, Electronic Devices, and the Illusion of Security"[1] attempts to establish a relationship between thefts and some of the factors which influence loss. In order to do this, he collected loss figures in selected LC classification letters for the years 1963-66. After adjusting these figures for volumes expected to be returned in the future, he reported an average of 1.06 per cent of the total volumes in the collection missing for 1964, 1.13 per cent for 1965, and 1.14 per cent for 1966. The range of the average of the losses for these years was from 0.39 per cent of the volumes in the class DA to 2.15 per cent of the R volumes. Mr. Roberts' study is the first published attempt to statistically relate variables to loss. He chose intensity of use, size of the collection, number of multiple copies, rate of growth, and volumes on reserve as the variables in his study and found only the first to be closely related.

---

[1]Matt Roberts, "Guards, Turnstiles, Electronic Devices, and the Illusion of Security," College and Research Libraries (July, 1968), pp. 259-275.

Final mention will be given in this discussion to the excellent annotated bibliography of articles published on the subject of library security, 1940-67, which appeared in the Law Library Journal in 1968.[1] This four-page bibliography cites thirty-six articles and books with a brief description of their content.

We conclude from this survey of the literature on book thefts that the widespread interest and concern for the problem of losses has resulted in a large number of articles on the subject. There is not much statistical data on the extent of the problem, however, and no surveys providing data on the losses in more than one academic library has been reported. The present study, providing data gathered from academic libraries throughout the United States, will attempt to fill at least partially this gap in the literature.

---

[1] R. M. Mersky and J. David, "Select Annotated Bibliographies on Library Floor Covering and Library Security, 1940-67," Law Library Journal, LXI (May, 1968), 108-114.

CHAPTER II

OBJECTIVES AND METHODOLOGY

This study was undertaken in the fall of 1965 to obtain an accurate and concrete picture of the problem of book losses through theft in academic libraries. It was designed to ascertain the climate of opinion among academic librarians concerning the problem of thefts; to gather information concerning methods of ascertaining loss, the extent of the loss, types of control devices used to prevent it, and methods of informing the academic community of the problem; and finally, to try to establish correlations between the loss figures obtained and various characteristics of the libraries and the academic institutions of which they are a part.

In November, 1965, with the assistance of the National Opinion Research Center, a questionnaire was compiled and distributed, as a pre-test, to a sample of one hundred of the libraries listed in the U.S. Office of Education publication, Library Statistics of Colleges and Universities, 1963-64 Institutional Data; the sample was restricted to libraries serving student bodies of less than five thousand in the belief

that libraries of this size would be more likely to have available the desired statistics. Experience at the University of Chicago Library indicated that it did not have available inventory statistics on the number of volumes lost through theft, partially because of the difficulty and cost of inventorying several million volumes, and partially because its departmental structure makes the gathering of comprehensive and comparable figures difficult. The writer believed that other libraries serving large student bodies might experience similar problems in data collection; therefore, a cut-off point of 5,000 students was established.

The sample for the pre-test was composed of every fifteenth library listed in the publication. Since the arrangement is alphabetically by state and, within each state, alphabetically by name of school, it is assumed that the sample was random.

After a response of approximately 35 per cent had been received, the questionnaire was revised and sent in December 1965, to all the remaining 1,582 libraries serving student bodies of less than five thousand listed in the U.S. Office of Education publication and its supplement. This document was used as the population for the study because it provides information to be used in making the correlations mentioned previously. With its supplement, it covered 90 per cent of

all college and university libraries[1] at the time of its publication.

After approximately five hundred fifty replies had been received from the main mailing, a follow-up letter and questionnaire were sent to those libraries which had not responded, eliciting a further response of about 415 replies.

Having received such a large number of responses, we decided to tabulate the data by means of electronic data processing equipment. A number of months elapsed during the process of applying for grants to process the data; in December 1966, the Council on Library Resources agreed to fund the proposal presented to them. The Statistical Tabulating Corporation of Chicago completed the card preparation and processing.

In this discussion of methodology, a few comments on possible biases introduced into the study should be made. The responses to the pre-test have been excluded from the study because of the extensive revision of the final questionnaire; moreover, those schools which did not respond to the pre-test were not sent the revised questionnaire. Because this subsample was selected systematically from every fifteen school, however, its exclusion is not believed to affect the results of the study.

---

[1]U.S. Office of Education, Library Statistics of Colleges and Universities 1963-64 Institutional Data; Supplement (Chicago: American Library Association, 1965), introduction.

A second possible cause of bias is of more concern. The U.S. Office of Education publication, Library Statistics of Colleges and Universities, 1963-64 Institutional Data, and its Supplement include 90 per cent of all college and university libraries, according to the introduction in the Supplement. It is possible that the remaining 10 per cent which did not respond to the questionnaire on which that report of library statistics is based, may possess, as a group, certain characteristics which make it a distinctive sub-group within the universe of academic libraries in the United States. To the extent that these non-respondents are a distinctive sub-group, those libraries which did respond to the Office of Education, and are included in its publication of library statistics, are not representative of the whole universe of academic libraries. To this extent also, bias is introduced into this study of book thefts, because we are using this latter group of libraries as our population.

A third area of concern is whether the 964 respondents to this study's questionnaire form a representative sub-group of the 1,682 schools with student bodies of less than 5,000 in the U.S. Office of Education report. Here speculation gives way to concrete data and we can make a direct comparison between the two groups in regard to specific characteristics using data from that publication.

TABLE 1

COMPARISON OF THE MEANS FOR SELECTED CHARACTERISTICS OF THE POPULATION AND THE RESPONDENTS

Variable	Population			Sample		Standard Error of the Mean	Standard Normal Variable	Likelihood
	Size	Mean	Standard Deviation	Size	Mean			
Private administrative Control.	1682	.670	———	964	.675	.010	.51	.305
Students	1682	1113.7	1110.4	964	1209.5	23.4	4.10	a
Volumes (in hundreds of volumes).	1682	525.3	668.6	964	571.6	14.1	3.29	.0005
Hours of Student Assistance (in tens of hours).	1549	455.8	537.7	911	491.3	11.4	3.15	.0008
Professional Personnel	1628	3.11	3.57	943	3.34	.075	3.05	.0011
Total Operating Expenditures (in hundreds of dollars)	1663	555.4	695.4	958	601.0	11.1	4.11	a
Book Expenditures (in hundreds of dollars)	1663	187.4	283.8	958	202.7	4.5	3.38	.0004

a = <.0001

Comparison of the means of seven characteristics for the population and the sub-group of respondents is given in Table 1. We find that the likelihood of obtaining from a sample of 964,[1] means as large or larger than those listed in the column "Sample Mean" is over 1 per cent in only one case, given that the sample comes from a population of 1,682 having the means and standard deviations shown in the table. This data indicates that of these seven characteristics the sample resembled the population only in administrative control, where there is a strong probability, almost one chance in three, that the sample is random. The sample cannot be considered random in regard to the other six, very significant characteristics, such as number of students, number of volumes, and total expenditures, the averages of which are considerably larger for the respondents than for the population. Therefore, we must consider that the data gathered by the study applies specifically to the study's respondents. It cannot be considered valid for the whole population of schools with student bodies of less than 5,000 listed in Library Statistics, 1963-64,[2]

---

[1]In four cases on Tables 1, 2, and 3, the sample and/or the population size was decreased if all the libraries did not supply information concerning certain characteristics.

[2]In another important characteristic, concern for the problem of book losses, the non-respondents can be assumed to differ from the respondents. It is safe to say that a substantial portion of the non-respondents concerned with the problem would have shown this concern by responding to the study's questionnaire.

because it is biased in the direction of large libraries.

Within the sample of the 964 respondents is a sub-group of 156 libraries which provided loss figures judged to be accurate and comparable with the figures given by others in the sub-group. Since the regression analyses run with this data are a vital part of this study, it is important to see if the libraries which provided these figures are representative either of the population of 1,682 libraries or the sub-group of the 964 respondents. Table 2 shows the comparison of the means of the seven characteristics for the sample of the 156 libraries with the total population. We find that the likelihood of obtaining sample means as high or higher (or low or lower) than the population means is uneven but somewhat higher than in our comparison of the means of the respondents with the population. For two of the characteristics, book expenditures and students, the likelihood is almost 10 per cent; for another, total expenditures, it is 4 per cent. In regard to these three variables, we conclude that there is a good possibility the sample of 156 is random. For the other characteristics, type of institution, number of volumes, hours of student assistance, and professional personnel, the sample cannot be considered random.

Table 3 compares the means of the characteristics for the sample of 156 schools and the 964 respondents. Here, the

TABLE 2

COMPARISON OF THE MEANS FOR SELECTED CHARACTERISTICS OF THE POPULATION AND THE LIBRARIES PROVIDING LOSS FIGURES

Variable	Population			Sample				
	Size	Mean	Standard Deviation	Size	Mean	Standard Error of the Mean	Standard Normal Variable	Likelihood
Private Administrative Control	1682	.670	———	156	.532	.034	4.05	a
Students.	1682	1113.7	1110.4	156	1224.2	84.7	1.30	.097
Volumes (in hundreds of volumes)	1682	525.3	668.6	156	364.4	51.0	3.16	.0008
Hours of Student Assistance (in tens of hours)	1549	455.8	537.7	156	376.0	40.8	1.95	.025
Professional Personnel	1628	3.11	3.57	156	2.47	.271	2.36	.009
Total Operating Expenditures (in hundreds of dollars)	1663	555.4	695.4	156	462.4	53.0	1.75	.040
Book Expenditures (in hundreds of dollars)	1663	187.4	283.8	156	159.6	21.6	1.29	.099

a = <.0001

TABLE 3

COMPARISON OF THE MEANS FOR SELECTED CHARACTERISTICS OF THE RESPONDENTS AND THE LIBRARIES PROVIDING LOSS FIGURES

Variable	Population			Sample				
	Size	Mean	Standard Deviation	Size	Mean	Standard Error of the Mean	Standard Normal Variable	Likelihood
Private Administrative Control.	964	.675	-	156	.532	.0343	4.17	a
Students	964	1209.5	1150.1	156	1224.2	84.3	.17	.4325
Volumes (in hundreds of volumes)	964	571.6	723.5	156	364.4	53.0	3.91	a
Hours of Student Assistance (in tens of hours).	911	491.3	577.7	156	376.0	42.1	2.74	.0031
Professional Personnel	943	3.34	4.01	156	2.47	.29	3.00	.0014
Total Operating Expenditures (in hundreds of dollars)	958	601.0	718.2	156	462.4	52.6	2.63	.0043
Book Expenditures (in hundreds of dollars)	958	202.7	288.7	156	159.6	21.1	2.04	.0207

a = < .0001

sample resembles the respondents only in the characteristic of student body size, where we have a 43 per cent likelihood of obtaining a mean as high or higher than the sample mean.

From the results of both Tables 2 and 3, we find that discussion of the loss data given by the 156 schools cannot be considered valid for the sub-group of respondents or in general for the total population although in the comparison with the population the sub-group of the 156 schools can be considered random in three of seven characteristics. We shall elaborate on the effects on the loss data of these differences in characters in Chapter VI, but we can note here that except for the characteristic of student body size, the averages of the characteristics of the libraries supplying the 156 loss figures are considerably smaller than the averages for the population or the respondents.

One important point concerning the methodology of this study needs to be made. Statistical analyses are only as valid as the statistics on which they are based. In this study, we are dealing with three groups of figures, i.e., those reported in the U.S. Office of Education publication, the tabulated responses to the questions on the questionnaire, and the loss figures provided by the respondents. Questions concerning the accuracy and compatibility of the academic library statistics reported in the Office of Education publication have been

well-raised.[1] The writer is well aware of the difficulty of gathering statistical data in libraries and the problems caused by differences in the definition of what is included in the counts. In general, the data from the U.S. Office of Education publication is used in tangential portions of the study, such as the cross tabulations and the comparison of the population and sub-samples. For these purposes, the writer believes that for the most part inaccuracies in this data will not be gross enough to significantly affect the results. In the interpretation of the cross tabulations in particular, most of the errors would not affect the categorization of the data and wherever possible the writer looked for major trends, not slight differences in the expected percentages.

Numerous errors were discovered during the tabulation of the responses to the questionnaire and the recoding of the data into categories. As far as the writer can ascertain, careful cross-checking has identified and eliminated these errors. The careful examination of a substantial portion of the responses to the open-ended questions reveals that the coding of these responses was accurate.

The accuracy of the loss figures is a very important and

---

[1]See for example Eli Oboler's article, "The Accuracy of Federal Academic Library Statistics," College and Research Libraries (November, 1964), pp. 494-496. He discusses the data in the 1962-63 Office of Education publication.

unresolved question. Further discussion of this subject will be postponed until late in the chapter in which those figures are presented and analyzed.

A large number of cross tabulations were run between responses to the questions and school characteristics.[1] The number of categories in some of the tables was too large to permit the usually accepted minimum of five responses to fall into each cell in the table. In these cases, figures indicating the level of confidence are not reliable. We have only used the confidence levels to sort out for discussion in this report the cross tabulations indicated to be significant at the 1 per cent or 5 per cent level. Our discussion has centered around the percentages of the responses themselves not the significance of difference. Unless there is a note to the contrary at the bottom of the table displaying the cross tabulation, or it contains a cell with a response of less than five, the confidence level may be assumed to be 1 per cent or less.

---

[1]See Table 79, Appendix B, for the complete list of cross tabulations.

CHAPTER III

LIBRARIANS' VIEWS OF THE LOSS PROBLEM

The first three questions on the questionnaire are designed to ascertain the climate of opinion of academic librarians concerning the seriousness and prevention of book losses through theft. Opinions expressed in the literature of the profession range from those indicating that book theft is a matter of very serious concern to those expressed by librarians who feel that losses through theft are inevitable and, therefore, should be accepted and not considered a serious problem. A good example of the first category of opinions is the following quotation from the University of Idaho Library's publication, Bookmark:

> Book theft and mutilation is a universal, chronic affliction of all types of libraries. More significant than the number and cost of books reported missing and presumably stolen, is the immeasurable frustration and inconvenience to library users caused by the hundreds of volumes that are temporarily missing during an assignment and eventually turn up again on the library's shelves.[1]

---

[1]Librarians at the University of Idaho Library have been concerned with book loss for a number of years, expressing this concern in a revealing series of articles discussing several aspects of book losses. "An Exit Control System at the University of Idaho Library," Bookmark, XVI (September, 1963), 1, provided this quotation.

On the other end of the continuum, V. S. Rastogi expressed this opinion in Indian Librarian:

> If use and service, instead of preservation is the chief moto [sic] of the modern day libraries then "the loss of books in a library is a must inspite [sic] of the best safeguards, the most human treatment and the vigilance of a high order." It is a simple social phenomenon.[1]

Table 4 shows the distribution of answers to Question 1, designed to measure opinion concerning the seriousness of the problem. Of the 949 librarians who answered the question, 51 per cent chose the middle category: book loss is a somewhat serious problem. Almost 22 per cent of the respondents indicated an opinion that book loss is not a serious problem, a slightly lower figure than the 26.7 per cent who felt that loss is a very serious problem. This table shows that, for 78 per cent of the librarians who answered this question, book loss is a matter of either somewhat or very serious concern, while 21.9 per cent or over one-fifth of the respondents do not feel it is a serious problem.

Table 5 indicates that a very large percentage, 93 per cent, of the respondents felt that financial loss to the library was a less important aspect of book loss than the unavailability of the lost volumes to other patrons. This response may reflect

---

[1]"The Library and the Loss of Books," Indian Librarian, XVII (June, 1962), 28.

TABLE 4

SERIOUSNESS OF THE PROBLEM

Librarians differ in their views about the importance of book losses through theft. Which of the following statements comes closest to your own view?

	Number of Responses	Percentage of Responses
Book loss is a very serious problem	253	26.7
Book loss is somewhat serious problem	488	51.4
Book loss is not a serious problem.	208	21.9

Total responses 949

Blank 15

TABLE 5

FINANCIAL LOSS VERSUS UNAVAILABILITY

Loss of books involves both a financial loss to the library and an intangible loss to other users when the volumes are unavailable to them. Which of these two aspects seems more important to you?

	Number of Responses	Percentage of Responses
Financial loss to library	60	6.3
Unavailability of volumes	888	93.7

Total responses 948

Blank 16

a greater concern of librarians with the service, rather than the financial aspect of library management; it certainly indicates that the great majority of the responding librarians agree with the statement quoted earlier from Bookmark, concerning the unavailability of volumes. After the analysis of the complete results of the study, the writer considers that this question forced the respondents into a spurious choice, in presenting these aspects at opposite ends of a continuum. Both financial loss and unavailability of volumes need to be taken into consideration in discussions of the loss problem and, specifically, in decisions on methods to reduce it. In the final summarization of the study's findings we shall provide an example of how this dual consideration should be accomplished.

Question 3 stressed the financial aspect of book losses, attempting to ascertain whether or not librarians feel that methods of preventing loss cost more than they save. Table 6 reveals that the responding librarians are split almost exactly down the middle on this question, with the slight minority, 48 per cent, believing that there are economically feasible ways to reduce loss. In our summary, after the chapters in which we examine the data on the extent of losses and the methods used to control them, we will return to this question of the economic feasibility of reducing loss, with

TABLE 6

VIEW OF LOSS PREVENTION

Which of these statements comes closest to your overall view on the prevention of book losses?

	Number of Responses	Percentage of Responses
Methods that substantially reduce book loss cost more in time and money than they save . .	455	51.6
There are economically feasible ways to substantially reduce book loss	427	48.4

Total responses 882

Blank 82

comments on the way in which this feasibility may be determined.

In an attempt to discover whether there is any relationship between the opinions expressed by the librarians answering these three questions and (a) their responses to other questions on the questionnaire or (b) various characteristics of their libraries or the institutions of which they are a part, a number of cross tabulations involving these variables were run. Several of the resulting tables contained figures revealing a significant difference among the groups expressing different opinions.[1]

---

[1]Approximately 150 cross tabulations were made. Table 79 in Appendix B is a complete list of the questions and school characteristics with which we ran cross tabulations. (Each one is listed only once, so the cross tabulation between Questions 1 and 3 is listed only under Question 1.) In general we have not included in the study's report those cross tabulations which are not significant at the 1 per cent or 5 per cent confidence level. The data the cross tabulations supply is mainly tangential to the primary data of the study, rounding out our knowledge of the differences in the characteristics and opinions of the respondents who gave differing answers to the Questions. Unless we have a large number of tables displaying the cross tabulations to examine at once, we will try to put these discussions in footnotes away from the main text. We shall discuss them as briefly as sense and accuracy permits, pointing out one or two differences from the expected percentages which appear significant to us.

The tables with the cross tabulations are to be read in the following way: the percentages of the row total for each figure in a row is in the parentheses at the side of the figure (read across, they will add up to approximately 100 per cent). The difference from the expected percentage can be ascertained by comparing this figure with the figure in parentheses at the bottom, in the row entitled column totals. Conversely, the percentage of the column total for each figure in a column is

The first cross tabulation which shows a significant difference between the responses to Question 1 and responses to other questions on the questionnaire was run with the responses to Question 2. We find in Table 7 that the "actual" percentages in the first row of the table differ substantially from the percentages expected from the distribution of the responses in the "total" figures. We conclude from this difference that librarians who believe loss is a serious problem also incline a little (we qualify the statement because the difference in percentages is not great) to the view that the financial aspects of book loss are more important than the unavailability of volumes. Table 8, seriousness of the problem: view of loss prevention, shows us that this same group of librarians who consider the loss problem serious also incline to believe that there are economically feasible ways to reduce the problem, while a higher than expected percentage of librarians who do not consider the problem serious feel that such methods cost more than they save. Table 9, which shows the cross tabulation of the question on seriousness with actual losses suffered by the respondents[1] has a large number of cells with

---

underneath the figure. Read down, they will add up to approximately 100 per cent and they are to be compared with the figure in parentheses alongside the row totals.

[1]The 169 loss figures were selected from approximately 415 actual figures of all kinds provided by the respondents to the study. In considering them, one must remember that they form a distinct sub-sample within the study's respondents.

TABLE 7

SERIOUSNESS OF THE PROBLEM: FINANCIAL LOSS VERSUS UNAVAILABILITY

Seriousness of the Problem	Financial Loss Versus Unavailability: Financial Loss to Library	Financial Loss Versus Unavailability: Unavailability of Volumes	Row Totals
Book loss is a very serious problem	26 (10.4 %) (43.3 %)	223 (89.6 %) (25.3 %)	249 (26.4%)
Book loss is somewhat serious problem	26 (5.4 %) (43.3 %)	458 (94.6 %) (52.1 %)	484 (51.5%)
Book loss is not a serious problem.	8 (3.9 %) (13.4 %)	199 (96.1 %) (22.6 %)	207 (22.1%)
Column totals	60 (6.4%)	880 (93.6%)	

Number of responses 940

X^2. . . . . 9.89

df. 2

TABLE 8

SERIOUSNESS OF THE PROBLEM - VIEW OF LOSS PREVENTION

View Of Loss Prevention	Seriousness Of The Problem			Column Totals
	Very	Somewhat	Not	
Methods that substantially reduce book loss cost more in time and money than they save	87 (19%) (38%)	248 (55%) (53%)	115 (26%) (63%)	450 (51.4%)
There are economically feasible ways to substantially reduce book loss	141 (33%) (62%)	217 (51%) (47%)	68 (16%) (37%)	426 (48.6%)
Row totals.	228 (26.0%)	465 (53.1%)	183 (20.9%)	

Total responses 876

X^2. . . . . 26.29

df. 2

TABLE 9

ACTUAL LOSSES: SERIOUSNESS OF THE PROBLEM

Actual Losses	Seriousness of the Problem			Row Totals
	Very	Somewhat	Not	
1 - 9	0 (0.0 %) (0.0 %)	2 (22.2 %) (2.3 %)	7 (77.8 %) (25.0 %)	9 (5.3 %)
10 - 49	11 (29.7 %) (20.4 %)	15 (40.5 %) (17.2 %)	11 (29.7 %) (39.3 %)	37 (21.9 %)
50 - 99	8 (32.0 %) (14.8 %)	15 (60.0 %) (17.2 %)	2 (8.0 %) (7.1 %)	25 (14.8 %)
100 - 149	6 (23.1 %) (11.1 %)	18 (69.2 %) (20.7 %)	2 (7.7 %) (7.1 %)	26 (15.4 %)
150 - 199	6 (46.2 %) (11.1 %)	6 (46.2 %) (6.9 %)	1 (7.7 %) (3.6 %)	13 (7.7 %)
200 - 299	7 (35.0 %) (13.0 %)	11 (55.0 %) (12.6 %)	2 (10.0 %) (7.1 %)	20 (11.8 %)
300 - 399	4 (30.8 %) (7.4 %)	9 (69.2 %) (10.3 %)	0 (0.0 %) (0.0 %)	13 (7.7 %)
400 - 9,999	12 (46.2 %) (22.2 %)	11 (42.3 %) (12.6 %)	3 (11.5 %) (10.7 %)	26 (15.4 %)
Column totals	54 (32.0 %)	87 (51.5 %)	28 (16.6 %)	

Number of responses 169

X^2. . . . . 57.482

df. 14

a low number of responses and percentages that fluctuate up and down the columns, so its interpretation is not straightforward. We can see, however, that there is a definite indication that the librarians who suffer low loss (below 50 volumes per year) consider, as might logically be expected, that the loss problem is not serious.

In Table 10 we learn more about the relationship between loss and opinions on its seriousness. We see that almost 40 per cent of the librarians considering loss serious believe that their losses are increasing. Conversely, the table indicates that librarians for whom the problem is not a serious one tend to believe their losses are decreasing or staying about the same. In Table 11, we compare the responses to the seriousness question with the control devices used by the respondents. As we might expect, few librarians considering the problem not serious employ expensive exit guards with or without turnstiles. About 30 per cent of the librarians who do not consider loss serious use only the honor system, while an additional one-fourth rely solely on a charge desk with visual control. We note that use of multiple control devices which include an exit guard are employed in libraries where the problem is considered only somewhat serious.

The cross tabulations of opinions on seriousness with school characteristics are also quite interesting. We find

TABLE 10

SERIOUSNESS OF THE PROBLEM - CHANGE IN LOSSES

Change in Losses	Seriousness of the Problem			Row Totals
	Very	Somewhat	Not	
Increasing	135 (37.8%) (56.5%)	190 (53.2%) (40.6%)	32 (9.0%) (16.4%)	357 (39.6%)
Decreasing	14 (20.3%) (5.8%)	36 (52.2%) (7.7%)	19 (27.5%) (9.7%)	69 (7.6%)
Fluctuating	35 (28.2%) (14.6%)	69 (55.7%) (14.8%)	20 (16.1%) (10.3%)	124 (13.7%)
Staying about the same	34 (15.7%) (14.2%)	97 (44.9%) (20.7%)	85 (39.4%) (43.6%)	216 (23.9%)
Don't know	21 (15.4%) (8.9%)	76 (55.9%) (16.2%)	39 (28.7%) (20.0%)	136 (15.1%)
Column totals	239 (26.5%)	468 (51.9%)	195 (21.6%)	

Total responses 902

x^2 . . . . . 100.86

df 8

TABLE 11

CONTROL DEVICES: SERIOUSNESS OF THE PROBLEM

Control Devices	Seriousness of the Problem: Very	Somewhat	Not	Row Totals
Exit guards (without turnstiles) 1	21 (34.4 %) (9.5 %)	35 (57.4 %) (8.2 %)	5 (8.2 %) (2.8 %)	61 (7.4 %)
Exit guards (with turnstiles). 2	10 (24.4 %) (4.5 %)	24 (58.5 %) (5.6 %)	7 (17.1 %) (3.9 %)	41 (4.9 %)
Magnetic systems (magnetized plates in volumes). 3	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %)
Charging desk at entrance to provide visual control 4	65 (27.7 %) (29.3 %)	123 (52.3 %) (28.8 %)	47 (20.0 %) (26.1 %)	235 (28.3 %)
Student body honor system. 5	34 (22.1 %) (15.3 %)	67 (43.5 %) (15.7 %)	53 (34.4 %) (29.4 %)	154 (18.6 %)
Other. 6	9 (20.5 %) (4.1 %)	27 (61.4 %) (6.3 %)	8 (18.2 %) (4.4 %)	44 (5.3 %)
Control devices number 1 or 2 and 4. . . 7	17 (28.3 %) (7.7 %)	37 (61.7 %) (8.7 %)	6 (10.0 %) (3.3 %)	60 (7.2 %)
Control devices number 1 or 2 and 5. . . 8	4 (40.0 %) (1.8 %)	6 (60.0 %) (1.4 %)	0 (0.0 %) (0.0 %)	10 (1.2 %)
Control devices number 4 and 5 9	34 (26.0 %) (15.3 %)	63 (48.1 %) (14.8 %)	34 (26.0 %) (18.9 %)	131 (15.8 %)
Control devices number 1 or 2 and 4 and 5. 10	2 (18.2 %) (0.9 %)	7 (63.6 %) (1.6 %)	2 (18.2 %) (1.1 %)	11 (1.3 %)
Other combinations of devices. 11	26 (31.7 %) (11.7 %)	38 (46.3 %) (8.9 %)	18 (22.0 %) (10.0 %)	82 (9.9 %)
Column totals.	222 (26.8 %)	427 (51.5 %)	180 (21.7 %)	

Number of responses 829

X^2. . . . . 38.446

df. 18

in Table 12 that the differences in the percentages are not great but we can see a slight tendency of librarians at schools under public administration to consider the problem serious and those at private schools to consider it not serious. We learn in Table 13 that the librarians with low operating expenditures tend to consider the problem not serious, while a high percentage of those at schools with expenditures above $60,000 consider it somewhat serious (we see now why these respondents can afford multiple controls). The respondents viewing the problem as very serious show a less clear pattern, although there is somewhat of a trend toward a greater percentage in the high expenditure categories. In the cross tabulation with students (Table 14) we find the percentage of responses in the "somewhat serious" category to be higher than expected from the column totals at schools with middle sized student bodies (1,000-2,499), while librarians at the largest schools tend to view the problem as serious, and at the smallest schools (under 500) as not serious. In Table 15, looking at the relationship between circulation and the librarians' view of the seriousness of loss, we again find a high percentage of "not serious" responses in the lowest category (less than 10,000); we also see a high percentage of "somewhat serious" responses in the highest circulation category (over 75,000).

The final cross tabulation with this question which

TABLE 12

SERIOUSNESS OF THE PROBLEM: ADMINISTRATIVE CONTROL

Seriousness of the Problem	Administrative Control		Row Totals
	Public	Private	
Book loss is a very serious problem . .	92 (36.3 %) (29.7 %)	161 (63.6 %) (25.2 %)	253 (26.7%)
Book loss is somewhat serious problem .	172 (35.2 %) (55.5 %)	316 (64.8 %) (49.5 %)	488 (51.4%)
Book loss is not a serious problem. . .	46 (22.1 %) (14.8 %)	162 (77.9 %) (25.3 %)	208 (21.9%)
Column totals	310 (32.7%)	639 (67.3%)	

Number of responses 949

X^2. . . . . 13.58

df. 2

TABLE 13

TOTAL OPERATING EXPENDITURES: SERIOUSNESS OF THE PROBLEM

Total Operating Expenditures In Dollars[a]	Seriousness of the Problem			Row Totals
	Very	Somewhat	Not	
Less than 10,0..	17 (19.5 %) (6.7 %)	37 (42.5 %) (7.6 %)	33 (37.9 %) (15.9 %)	87 (9.2 %)
10,0.. - 20,0..	39 (25.7 %) (15.5 %)	77 (50.7 %) (15.9 %)	36 (23.7 %) (17.3 %)	152 (16.1 %)
20,1.. - 40,0..	57 (24.5 %) (22.6 %)	115 (49.4 %) (23.7 %)	61 (26.2 %) (29.3 %)	233 (24.7 %)
40,1.. - 60,0..	58 (34.5 %) (23.0 %)	80 (47.6 %) (16.5 %)	30 (17.9 %) (14.4 %)	168 (17.8 %)
60,1.. - 80,0..	20 (18.5 %) (7.9 %)	66 (61.1 %) (13.6 %)	22 (20.4 %) (10.6 %)	108 (11.4 %)
80,1.. - 999,9..	61 (31.0 %) (24.2 %)	110 (55.8 %) (22.7 %)	26 (13.2 %) (12.5 %)	197 (20.8 %)
Column totals	252 (26.7 %)	485 (51.3 %)	208 (22.0 %)	

Number of responses 945

X^2. . . . . 35.287

df. 10

[a]Last two digits dropped, so figures are in hundreds of dollars.

TABLE 14

NUMBER OF STUDENTS: SERIOUSNESS OF THE PROBLEM

Number of Students	Seriousness of the Problem			Row Totals
	Very	Somewhat	Not	
1 - 499	75 (24.4 %) (29.6 %)	137 (44.5 %) (28.1 %)	96 (31.2 %) (46.2 %)	308 (32.5 %)
500 - 999	63 (25.3 %) (24.9 %)	130 (52.2 %) (26.6 %)	56 (22.5 %) (26.9 %)	249 (26.2 %)
1,000 - 1,499	35 (26.3 %) (13.8 %)	81 (60.9 %) (16.6 %)	17 (12.8 %) (8.2 %)	133 (14.0 %)
1,500 - 1,999	19 (24.4 %) (7.5 %)	43 (55.1 %) (8.8 %)	16 (20.5 %) (7.7 %)	78 (8.2 %)
2,000 - 2,499	12 (24.5 %) (4.7 %)	29 (59.2 %) (5.9 %)	8 (16.3 %) (3.8 %)	49 (5.2 %)
2,500 - 4,999	49 (37.1 %) (19.4 %)	68 (51.5 %) (13.9 %)	15 (11.4 %) (7.2 %)	132 (13.9 %)
Column totals	253 (26.7 %)	488 (51.4 %)	208 (21.9 %)	

Number of responses 949

X^2. . . . . 36.735

df. 10

TABLE 15

TOTAL CIRCULATION - SERIOUSNESS OF THE LOSS PROBLEM

Total Circulation[a]	Seriousness of the Loss Problem			Row Totals
	Very	Somewhat	Not	
Less than 10,0..	26 (18.6%) (12.3%)	73 (52.1%) (17.5%)	41 (29.3%) (24.4%)	140 (17.6%)
10,0.. - 19,9..	42 (24.6%) (19.8%)	84 (49.1%) (20.1%)	45 (26.3%) (26.8%)	171 (21.5%)
20,0.. - 29,9..	44 (34.1%) (20.8%)	68 (52.7%) (16.3%)	17 (13.2%) (10.1%)	129 (16.2%)
30,0.. - 49,9..	52 (32.5%) (24.5%)	81 (50.6%) (19.4%)	27 (16.9%) (16.1%)	160 (20.1%)
50,0.. - 74,9..	27 (27.3%) (12.7%)	48 (48.5%) (11.5%)	24 (24.2%) (14.3%)	99 (12.4%)
75,0.. -99[illegible],9..	21 (21.4%) (9.9%)	63 (64.3%) (15.1%)	14 (14.3%) (8.3%)	98 (12.3%)
Column totals	212 (26.6%)	417 (52.3%)	168 (21.1%)	

Number of responses 797

x^2 . . . . . 27.747

df 10

[a]Last two digits dropped in coding, so circulation is in hundreds of volumes.

we will discuss (Table 16) brings to light an interesting fact concerning the respondents themselves. It appears from the table that there is a definite relationship between a librarian's length of experience at one school and her view of the loss problem there. We see a high percentage of librarians viewing the problem as serious who have worked in their library less than one year, and conversely an increasing tendency to view the problem as not serious as length of service increases.

Turning to Question 2, on financial loss versus unavailability, we see in Table 17 a definite tendency for the percentages of librarians believing the aspect of unavailability most important to increase as the expenditure per student increases. This is a logical progression when we consider that the financial aspect of the loss problem would become less important as funds became more readily available. We remember in earlier discussion of Question 2 that Table 7 showed the cross tabulations of Questions 1 and 2; we saw in that table that librarians considering the loss problem serious tend to stress the financial loss to the library.

The responses to Question 3, on the librarian's view of loss prevention is shown in Table 18 with the view of the rate of loss increase. The one very significant difference in percentages shows logically that librarians who think their

TABLE 16

LENGTH OF LIBRARIAN'S SERVICE IN SCHOOL: SERIOUSNESS OF THE PROBLEM

Length of Librarian's Service in School	Seriousness of the Problem			Row Totals
	Very	Somewhat	Not	
Less than one year.	19 (38.8%) (7.6%)	23 (46.9%) (4.8%)	7 (14.3%) (3.4%)	49 (5.2%)
Over one, less than three years	31 (23.2%) (12.4%)	85 (63.4%) (17.6%)	18 (13.4%) (8.7%)	134 (14.3%)
Over three, less than five years. . . .	42 (30.0%) (16.7%)	71 (50.7%) (14.8%)	27 (19.3%) (13.1%)	140 (14.9%)
Over five, less than ten years.	42 (20.4%) (16.7%)	111 (53.9%) (23.0%)	53 (25.7%) (25.8%)	206 (21.9%)
Over ten years.	117 (28.6%) (46.6%)	192 (46.8%) (39.8%)	101 (24.6%) (49.0%)	410 (43.7%)
Column totals	251 (26.7%)	482 (51.3%)	206 (22.0%)	

Number of responses 939

X^2 . . . . . 22.25

df 8

TABLE 17

DOLLARS PER FULL-TIME EQUIVALENT STUDENT: FINANCIAL LOSS VERSUS UNAVAILABILITY OF VOLUMES

Dollars Per FTE Student[a]	Financial Loss	Unavailability of Volumes	Row Totals
Less than 3	13 (8.4%) (22.4%)	141 (91.6%) (16.1%)	154 (16.5%)
3. - 5.	31 (7.8%) (53.4%)	365 (92.2%) (41.7%)	396 (42.4%)
6. - 10.	12 (4.6%) (20.7%)	247 (95.4%) (28.2%)	259 (27.7%)
11. - 99.	2 (1.6%) (3.4%)	123 (98.4%) (14.0%)	125 (13.4%)
Column totals	58 (6.2%)	876 (93.8%)	

Number of responses 934

X^2 . . . . . 8.961

df 3

[a]Last digit dropped in coding, so figures are in tens of dollars.

TABLE 18

CHANGE IN LOSSES: VIEW OF LOSS PREVENTION

Change in Losses	View of Loss Prevention: Methods That Substantially Reduce Book Loss Cost More In Time And Money Than They Save	View of Loss Prevention: There Are Economically Feasible Ways To Substantially Reduce Book Loss	Row Totals
Increasing	165 (49.4%) (38.0%)	169 (50.6%) (41.5%)	334 (39.7%)
Decreasing	23 (34.3%) (5.3%)	44 (65.7%) (10.8%)	67 (8.0%)
Fluctuating.	61 (52.1%) (14.1%)	56 (47.9%) (13.8%)	117 (13.9%)
Staying about the same	112 (56.3%) (25.8%)	87 (43.7%) (21.4%)	199 (23.7%)
Don't know.	73 (58.9%) (16.8%)	51 (41.1%) (12.5%)	124 (14.7%)
Column totals.	434 (51.6%)	407 (48.4%)	

Number of responses 841

X^2 . . . . . 13.03

df 4

Significant at 5% level

losses are decreasing believe there are feasible ways of reducing loss. This result does not reinforce the findings of Tables 8 and 10 which found a tendency of librarians with decreasing loss to vi w the problem as not serious, and the latter to feel that control methods cost more than they save. Apparently a substantial portion of the respondents with decreasing loss who considered the problem somewhat serious tipped the balance in the question directly examining the relation between change in loss rate and loss prevention.

We see in Table 19 the relation between the use of control devices and the response to this question. We find librarians employing the most expensive control devices, i.e., exit guards, stating the belief that loss can be reduced without paying more for the controls than the replacement of the lost volumes. In Chapter IV, when we discuss the other significant cross tabulations which were run with the use of controls, we will find that librarians using exit guards, also tend to have large expenditures, collections, and student bodies. We may assume, for the present, that libraries with these characteristics have a relatively high loss rate and we know from Tables 13 and 14 that these librarians also tend to view the loss problem as serious. We assume, therefore, that these respondents anticipate an even larger loss without exit controls, the replacement of which would be higher than

TABLE 19

CONTROL DEVICES: VIEW OF LOSS PREVENTION

Control Devices	View Of Loss Prevention: Methods That Substantially Reduce Book Loss Cost More In Time And Money Than They Save	View Of Loss Prevention: There Are Economically Feasible Ways To Substantially Reduce Book Loss	Row Totals
Exit guards (without turnstiles). . . 1	15 (25.9 %) (3.8 %)	43 (74.1 %) (11.4 %)	58 (7.5 %)
Exit guards (with turnstiles) 2	11 (29.7 %) (2.8 %)	26 (70.3 %) (6.9 %)	37 (4.8 %)
Magnetic systems (magnetized plates in volumes) 3	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %)
Charging desk at entrance to provide visual control 4	133 (61.3 %) (61.3 %)	84 (38.7 %) (38.7 %)	217 (28.2 %)
Student body honor system 5	79 (58.1 %) (20.1 %)	57 (41.9 %) (15.1 %)	136 (17.7 %)
Other 6	21 (50.0 %) (5.3 %)	21 (50.0 %) (5.6 %)	42 (5.5 %)
Control devices number 1 or 2 and 4 7	17 (29.8 %) (4.3 %)	40 (70.2 %) (10.6 %)	57 (7.4 %)
Control devices number 1 or 2 and 5 8	5 (50.0 %) (1.3 %)	5 (50.0 %) (1.3 %)	10 (1.3 %)
Control devices number 4 and 5. . . . 9	76 (62.3 %) (19.3 %)	46 (37.7 %) (12.2 %)	122 (15.8 %)
Control devices number 1 or 2 and 4 and 5 10	5 (50.0 %) (1.3 %)	5 (50.0 %) (1.3 %)	10 (1.3 %)
Other combinations of devices 11	31 (38.3 %) (7.9 %)	50 (61.7 %) (13.3 %)	81 (10.5 %)
Column totals	393 (51.0 %)	377 (49.0 %)	

Number of responses 770
X^2. . . . . 56.466
df. 9

the cost of the exit guards. On the other hand, we see the librarians employing the honor system or a charge desk with visual control either singly or in combinations with each other, choosing the statement that control methods cost more than they save. We have seen some relation between librarians holding this view and those believing loss is not serious and we know the latter respondents tend to experience lower loss. This data may lead us to the conclusion that librarians holding the view that controls cost more than they save are indeed at schools where the loss is low enough that controls would be more expensive than replacement costs. Or conversely, we may interpret the results of Table 19 by the simple conclusion that librarians holding this view of loss prevention would naturally choose the least expensive method of control for their library. A third possibility occurs when we see in Chapter IV the responses of librarians to the question on the effectiveness of these controls. A very small number indicated the honor system or a central charging desk as effective devices; if they are not effective, these respondents may from their experience choose the negative response to Question 3.

The rest of the significant cross tabulations with the question involve school characteristics. We find in Tables 20 and 21 a tendency of librarians at publicly administered schools, especially universities, junior colleges, and teachers'

TABLE 20

VIEW OF LOSS PREVENTION: ADMINISTRATIVE CONTROL

View of Loss Prevention	Administrative Control		Row Totals
	Public	Private	
Methods that substantially reduce book loss cost more in time and money than they save	125 (27.5 %) (42.4 %)	330 (72.5 %) (57.6 %)	455 (51.6 %)
There are economically feasible ways to substantially reduce book loss	170 (39.8 %) (56.2 %)	257 (60.2 %) (43.8 %)	427 (48.4 %)
Column totals	295 (33.4 %)	587 (66.6 %)	

Number of responses 882

X^2. . . . . 15.07

df. 1

TABLE 21

TYPE OF INSTITUTION: VIEW OF LOSS PREVENTION

Category	View of Loss Prevention: Methods That Substantially Reduce Book Loss Cost More in Time and Money than They Save	View of Loss Prevention: There are Economically Feasible Ways to Substantially Reduce Book Loss	Row Totals
Liberal Arts Schools	226 (55.9%) (49.7%)	178 (44.1%) (41.7%)	404 (45.8%)
Universities	8 (34.8%) (1.8%)	15 (65.2%) (3.5%)	23 (2.6%)
Junior Colleges.	101 (45.1%) (22.2%)	123 (54.9%) (28.8%)	224 (25.4%)
Teachers Colleges.	39 (44.8%) (8.5%)	48 (55.2%) (11.2%)	87 (9.9%)
Technological, Theological, Religious, Fine Arts, or other Professional Schools.	73 (57.0%) (16.0%)	55 (43.0%) (12.9%)	128 (14.5%)
Technical Institutes or Semi-Professional Schools	8 (50.0%) (1.8%)	8 (50.0%) (1.9%)	16 (1.8%)
Column Totals	455 (51.6%)	427 (48.4%)	

Number of responses 882
X^2 . . . . . 12.58
df 5
Significant at 5% level

colleges to think loss prevention feasible. Tables 22 and 23 can be read together to find that except for the lowest circulation category, and the three low categories of numbers of students, there is a tendency for more librarians to think feasible control methods exist as the circulation and number of students increases.

To sum up the data in this chapter briefly, we have seen that a fairly high percentage of the respondents consider the loss problem serious, while over half chose the middle of the road category of loss as a somewhat serious problem. These librarians tend to believe their losses are increasing or fluctuating. Librarians who do not consider loss serious tend to experience lower loss and believe it is decreasing or staying about the same. These librarians also tend to be at schools with low operating expenditures, number of students and circulation, and private administrative control. Longer length of service at a library tends to make librarians view the loss problem as less serious.

Librarians overwhelmingly replied that the unavailability of volumes is a more serious aspect of the loss problem than the financial aspect. As the rate of expenditure per student decreases, librarians' concern with the financial aspect increases.

Librarians were split about 50-50 on the question of the economic feasibility of loss prevention. When librarians

TABLE 22

TOTAL CIRCULATION: VIEW OF LOSS PREVENTION

Total Circulation[a]	View of Loss Prevention: Methods That Substantially Reduce Book Loss Cost More In Time And Money Than They Save	View of Loss Prevention: There Are Economically Feasible Ways To Substantially Reduce Book Loss	Row Totals
Less than 10,0..	55 (44.0 %) (14.5 %)	70 (56.0 %) (19.2 %)	125 (16.8 %)
10,0.. - 19,9..	99 (63.5 %) (26.1 %)	57 (36.5 %) (15.6 %)	156 (21.0 %)
20,0.. - 29,9..	62 (51.2 %) (16.4 %)	59 (48.8 %) (16.2 %)	121 (16.3 %)
30,0.. - 49,9..	83 (55.7 %) (21.9 %)	66 (44.3 %) (18.1 %)	149 (20.0 %)
50,0.. - 74,9..	40 (40.8 %) (10.6 %)	58 (59.2 %) (15.9 %)	98 (13.2 %)
75,0.. -999,9..	40 (42.1 %) (10.6 %)	55 (57.9 %) (15.1 %)	95 (12.8 %)
Column totals	379 (50.9 %)	365 (49.1 %)	

Number of responses 744

X^2. . . . . 20.529

df. 5

[a]Last two digits dropped in coding, so circulation is in hundreds of volumes.

TABLE 23

NUMBER OF STUDENTS: VIEW OF LOSS PREVENTION

Number of Students	View Of Loss Prevention: Methods That Substantially Reduce Book Loss Cost More In Time And Money Than They Save	View Of Loss Prevention: There Are Economically Feasible Ways To Substantially Reduce Book Loss	Row Totals
1 - 499	147 (54.2 %) (32.3 %)	124 (45.8 %) (29.0 %)	271 (30.7 %)
500 - 999	132 (55.9 %) (29.0 %)	104 (44.1 %) (24.4 %)	236 (26.8 %)
1,000 - 1,499	77 (59.7 %) (16.9 %)	52 (40.3 %) (12.2 %)	129 (14.6 %)
1,500 - 1,999	36 (48.6 %) (7.9 %)	38 (51.4 %) (8.9 %)	74 (8.4 %)
2,000 - 2,499	21 (43.8 %) (4.6 %)	27 (56.3 %) (6.3 %)	48 (5.4 %)
2,500 - 4,999	42 (33.9 %) (9.2 %)	82 (66.1 %) (19.2 %)	124 (14.1 %)
Column totals	455 (51.6 %)	427 (48.4 %)	

Number of responses 882

X^2. . . . . 22.658

df. 5

believe their losses are decreasing, they naturally tend to believe control methods are economically feasible. This type of response is more prevalent among librarians at publically administered schools, especially universities, junior colleges, and teachers' colleges and at schools with large circulation and student bodies.

CHAPTER IV

CONTROL DEVICES

We now come to the section of the questionnaire dealing with the devices which attempt to minimize loss. The answers to Question 9, concerning the respondents' use of these various devices, are displayed in Tables 24 and 31. In Table 24 we discover that 28 per cent of the respondents use a charging desk with visual control, while 12 per cent use exit guards, with or without turnstiles, as their sole control device. The multiple response categories 7, 8, and 10 tell us that exit guards are used in combination with a charging desk and/or the honor system by an additional 10 per cent of the respondents. Some overlap may exist among these three categories (i.e., charging desk with visual control and the two categories of exit guards) and also between them and the "other" category. When the categories were drawn up, the writer envisioned exit guards being stationed very near the library's exists and somewhat away from the charging desk. Some of the responses in the "other" category mentioned student checkers at the exits (rather than guards).

TABLE 24

CONTROL DEVICES

	Number of Responses [a]	Percentage of Responses
Exit guards (without turnstiles).	62	7.4
Exit guards (with turnstiles)	41	4.9
Magnetic Systems (Magnetized plates in volumes) . .	0	.0
Charging desk to provide visual control	237	28.3
Student body honor system	158	18.9
Other	45	5.4
Devices number 1 or 2 and 4	60	7.2
Devices number 1 or 2 and 5	11	1.3
Devices number 4 and 5.	131	15.6
Devices number 1 or 2 and 4 and 5	11	1.3
Other combinations of devices	82	9.7

Total respondents 838
Blanks 126

[a] The total number of responses in the first 6 categories, not eliminating those used in combinations with other devices is as follows: 1, 122; 2, 88; 3, 0; 4, 498; 5, 329; 6, 129.

Turnstiles and exit inspection are sometimes placed at the charging desk.

Eighteen per cent of the question's respondents rely solely on what can be considered a minimal control measure, a student body honor system. The honor system supplemented by a charging desk with visual control is employed by 15 per cent. Combinations of other devices, most of them containing a method described in the "other" category, account for almost 10 per cent of the responses.[1]

No libraries reported using the newly developed magnetic anti-theft system in late 1965 or early 1966 when the questionnaires were distributed. Since that time, the most

---

[1]These responses differed considerably from the results of the survey studying community use of academic libraries reported in the article, George C. Elser, "Exit Controls and the Statewide Card," College and Research Libraries (May, 1968), pp. 194-196. Of the 783 libraries answering this questionnaire, almost half indicated they had no control at their exits. The most common form of control they reported was a guard; the second form of control most often mentioned was the turnstile. Eighty-six respondents checked other means of control, mentioning most often location of the charging desk so that patrons had to pass it in leaving the building.

A second study, based on a questionnaire concerning the reaction to turnstiles and checkers in libraries, was reported in Ernst E. Weyhrauch and Mary Thurman, "Turnstiles, Checkers, and Library Security," Southeastern Librarian, XVIII (Summer, 1968), 111-116. The results indicated that 28 of 73 respondents were currently using turnstiles. Fifty-eight libraries check student's books, briefcases, etc.; 21 per cent of these schools do not use turnstiles. Fifty-three libraries check faculty. One interesting result of this study was the differing functions reported for the turnstiles. In some libraries they are only traffic channeling devices and it was a secondary consideration if one had a checker at the turnstile on a full-time basis or at all.

well-known magnetic system, Sentronic, has been installed in over 60 libraries[1] throughout the country, many of them academic libraries. The Checkpoint system, whose development and testing was aided by a grant from the Council on Library Resources, has been installed in at least 25 academic libraries.[2] Other well-known electronic anti-pilferage systems on the market at present include the Knogo, Sensormatic, and Tattle Tape systems.[3]

The structure of Question 9 did not provide a choice for the use of no control devices, and, therefore, it does not permit a precise statement concerning the ratio between libraries which do and do not use these devices. However, using the figure of 126 respondents who left this question blank, it is possible to say that no more than 13 per cent of the 964 libraries included in the study did not employ control devices. This percentage is probably substantially less since perusal

---

[1]This figure was obtained from Security Digest, I (1969), 8. This publication has a marked bias to the Sentronic system, but if read with care provides interesting comparative data on the various types of pilferage control systems.

[2]Figure obtained from Checkpoint systems, "Current Checkpoint Customers, sheet no. --."

[3]Information about these, and the above systems, may be found in advertisements in the professional journals and obtained directly from the manufacturers themselves.

of the other tables reveals some non-respondents in a number of the questions.[1]

A number of the cross tabulations run with the answers concerning the use of control devices round out the picture of the types and characteristics of the schools which employ specific devices. In Table 25 we see the logical assumption confirmed that the great majority of libraries employing exit guards have high operating expenditures to fund them. There are only ten schools with expenditures of under $40,000 in either of the first two categories although we note that the percentage of responses in the range of $20,100 to $60,000 is considerably higher for libraries employing exit guards with turnstiles than without turnstiles. Likewise, libraries employing both exit guards and charging desks with visual control tend to have

---

[1]We were curious to discover whether the libraries which did not report control devices suffered greater loss than those who had devices to reduce it. Of the 169 libraries providing actual loss figures, 25 did not report control devices. A statistical comparison was made of the means of the loss figures of each of the two groups (the entire 169 loss figures, and the 25 without control devices). The results indicated that if other sub-samples were to be taken from the parent group, there would be an 11 per cent chance that the means of the loss figures from these samples would be as low or lower. The mean of the 169 figures is 230; of the 25, 148. From this comparison we see a tendency on the part of the respondents without control devices to report lower, not higher figures, than the libraries with control devices, although there is one chance in 10 that the sub-groups may be considered random sample.

TABLE 25

CONTROL DEVICES: TOTAL OPERATING EXPENDITURES

Control Devices	Total Operating Expenditures in Dollars[a]						
	Less than 10,0..	10,0.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. - 999,999	Row Totals
Exit guards (without turnstiles) 1	0 (0.0%) 0.0%	5 (8.1%) 4.2%	5 (8.1%) 2.4%	7 (11.3%) 4.6%	9 (14.5%) 9.3%	36 (58.1%) 19.7%	62 (7.5%)
Exit guards (with turnstiles) 2	0 (0.0%) 0.0%	3 (7.3%) 2.5%	7 (17.1%) 3.3%	7 (17.1%) 4.6%	6 (14.6%) 6.2%	18 (43.9%) 9.8%	41 (4.9%)
Magnetic systems (magnetized plates in volumes) . 3	0 (0.0%) 0.0%	0 (0.0%) 0.0%	0 (0.0%) 0.0%	0 (0.0%) 0.0%	0 (0.0%) 0.0%	0 (0.0%) 0.0%	0 (0.0%)
Charging desk at entrance to provide visual control 4	16 (6.8%) 23.2%	41 (17.4%) 34.5%	75 (31.8%) 35.5%	46 (19.5%) 30.3%	25 (10.6%) 25.8%	33 (14.0%) 18.0%	236 (28.4%)
Student body honor system 5	22 (14.0%) 31.9%	25 (15.9%) 21.0%	49 (31.2%) 23.2%	28 (17.8%) 18.4%	15 (9.6%) 15.5%	18 (11.5%) 9.8%	157 (18.9%)
Other 6	10 (22.2%) 14.5%	6 (13.3%) 5.0%	9 (20.0%) 4.3%	10 (22.2%) 6.6%	2 (4.4%) 2.1%	8 (17.8%) 4.4%	45 (5.4%)
Devices number 1 or 2 and 4 7	2 (3.6%) 2.9%	3 (5.4%) 2.5%	9 (16.1%) 4.3%	8 (14.3%) 5.3%	10 (17.9%) 10.3%	24 (42.9%) 13.1%	56 (6.7%)
Devices number 1 or 2 and 5 8	0 (0.0%) 0.0%	0 (0.0%) 0.0%	4 (40.0%) 1.9%	3 (30.0%) 2.0%	0 (0.0%) 0.0%	3 (30.0%) 1.6%	10 (1.2%)
Devices number 4 and 5. . 9	13 (9.8%) 18.8%	26 (19.7%) 21.8%	38 (28.8%) 18.0%	22 (16.7%) 14.5%	12 (9.1%) 12.4%	21 (15.9%) 11.5%	132 (15.9%)
Devices number 1 or 2 and 4 and 5 10	2 (20.0%) 2.9%	2 (20.0%) 1.7%	2 (20.0%) 0.9%	1 (10.0%) 0.7%	1 (10.0%) 1.0%	2 (20.0%) 1.1%	10 (1.2%)
Other combinations of devices 11	4 (4.9%) 5.8%	8 (9.8%) 6.7%	13 (15.9%) 6.2%	20 (24.4%) 13.2%	17 (20.7%) 17.5%	20 (24.4%) 10.9%	82 (9.9%)
Column totals	69 8.3%	119 14.3%	211 25.4%	152 18.3%	97 11.7%	183 22.0%	

Number of responses 831
X^2. . . . . 172.518
df. 45

[a]Last two digits dropped in coding, so figures are in hundreds of dollars.

very high expenditures, i.e., above $60,100. The percentages for the category of charging desk with visual control used alone run fairly much as expected, except that we find a substantially lower number of responses in the highest expenditure category, above $80,100. Sole reliance on the honor system tends to be left to schools with low expenditures, although the percentages in the low expenditure categories are not nearly as high as one might anticipate. In fact, only libraries with expenditures above $80,100 report a substantially lower sole reliance on the honor system. "Other" devices, when employed alone, tend to be used by schools with very low expenditures, but when used in combination with different methods, their greatest occurrence is in the high expenditure categories.

The cross tabulations with number of students and volumes in Tables 26 and 27, show a pattern basically similar to Table 25. We see a concentration of the respondents using exit controls in the high categories of students and volumes. We see the percentage for charging desks with visual control running similar to the expected ones, except for the lower response in the highest category. Sole reliance on the honor system is definitely favored by schools with less than 500 students, although the collection size at these schools is apparently not necessarily small. In the combinations of devices, we see exit guards with charging desk control showing

TABLE 26

CONTROL DEVICES: NUMBER OF STUDENTS

Control Devices	Number of Students: 1 - 499	500 - 999	1,000 - 1,499	1,500 - 1,999	2,000 - 2,499	2,500 - 4,999	Row Totals
Exit guards (without turnstiles) 1	5 (8.1%) (1.9%)	7 (11.3%) (3.2%)	9 (14.5%) (7.9%)	9 (14.5%) (12.5%)	5 (8.1%) (11.1%)	27 (43.5%) (21.6%)	62 (7.4%)
Exit guards (with turnstiles) 2	4 (9.8%) (1.6%)	6 (14.6%) (2.7%)	6 (14.6%) (5.3%)	5 (12.2%) (6.9%)	6 (14.6%) (13.3%)	14 (34.1%) (11.2%)	41 (4.9%)
Magnetic systems (magnetized plates in volumes) . 3	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Charging desk at entrance to provide visual control 4	66 (27.8%) (25.6%)	74 (31.2%) (33.5%)	46 (19.4%) (40.4%)	16 (6.8%) (22.2%)	14 (5.9%) (31.1%)	21 (8.9%) (16.8%)	237 (28.4%)
Student body honor system 5	76 (48.1%) (29.5%)	44 (27.8%) (19.9%)	15 (9.5%) (13.2%)	10 (6.3%) (13.9%)	5 (3.2%) (11.1%)	8 (5.1%) (6.4%)	158 (18.9%)
Other 6	15 (33.3%) (5.8%)	14 (31.1%) (6.3%)	8 (17.8%) (7.0%)	2 (4.4%) (2.8%)	1 (2.2%) (2.2%)	5 (11.1%) (4.0%)	45 (5.4%)
Devices number 1 or 2 and 4 7	5 (8.8%) (1.9%)	17 (29.8%) (7.7%)	6 (10.5%) (5.3%)	6 (10.5%) (8.3%)	4 (7.0%) (8.9%)	19 (33.3%) (15.2%)	57 (6.8%)
Devices number 1 or 2 and 5 8	1 (10.0%) (0.4%)	3 (30.0%) (1.4%)	1 (10.0%) (0.9%)	2 (20.0%) (2.8%)	0 (0.0%) (0.0%)	3 (30.0%) (2.4%)	10 (1.2%)
Devices number 4 and 5. . 9	65 (49.2%) (25.2%)	35 (26.5%) (15.8%)	9 (6.8%) (7.9%)	15 (11.4%) (20.8%)	1 (0.8%) (2.2%)	7 (5.3%) (5.6%)	132 (15.8%)
Devices number 1 or 2 and 4 and 5 10	4 (36.4%) (1.6%)	3 (27.3%) (1.4%)	1 (9.1%) (0.9%)	0 (0.0%) (0.0%)	1 (9.1%) (2.2%)	2 (18.2%) (1.6%)	11 (1.3%)
Other combinations of devices 11	17 (20.7%) (6.6%)	18 (22.0%) (8.1%)	13 (15.9%) (11.4%)	7 (8.5%) (9.7%)	8 (9.8%) (17.8%)	19 (23.2%) (15.2%)	82 (9.8%)
Column totals	258 (30.9%)	221 (26.5%)	114 (13.7%)	72 (8.6%)	45 (5.4%)	125 (15.0%)	

Number of responses 835
X^2. . . . . 210.453
df. 45

TABLE 27

CONTROL DEVICES: NUMBER OF VOLUMES

Control Devices	Number of Volumes[a] Less than 10,0..	10,0.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. - 999,9..	Row Totals
Exit guards (without turnstiles) 1	5 (8.1%) (5.5%)	6 (9.7%) (4.2%)	7 (11.3%) (4.0%)	7 (11.3%) (4.4%)	10 (16.1%) (11.0%)	27 (43.5%) (15.1%)	62 (7.4%)
Exit guards (with turnstiles) 2	0 (0.0%) (0.0%)	4 (9.8%) (2.8%)	6 (14.6%) (3.5%)	8 (19.5%) (5.1%)	12 (29.3%) (13.2%)	11 (26.8%) (6.1%)	41 (4.9%)
Magnetic systems (magnetized plates in volumes) . 3	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Charging desk at entrance to provide visual control 4	35 (14.8%) (38.5%)	40 (16.9%) (28.0%)	67 (28.3%) (38.7%)	43 (18.1%) (27.2%)	20 (8.4%) (22.0%)	32 (13.5%) (17.9%)	237 (28.4%)
Student body honor system 5	20 (12.7%) (22.0%)	30 (19.0%) (21.0%)	28 (17.7%) (16.2%)	38 (24.1%) (24.1%)	14 (8.9%) (15.4%)	28 (17.7%) (15.6%)	158 (18.9%)
Other 6	7 (15.6%) (7.7%)	11 (24.4%) (7.7%)	7 (15.6%) (4.0%)	6 (13.3%) (3.8%)	6 (13.3%) (6.6%)	8 (17.8%) (4.5%)	45 (5.4%)
Devices number 1 or 2 and 4 7	4 (7.0%) (4.4%)	3 (5.3%) (2.1%)	14 (24.6%) (8.1%)	11 (19.3%) (7.0%)	6 (10.5%) (6.6%)	19 (33.3%) (10.6%)	57 (6.8%)
Devices number 1 or 2 and 5 8	0 (0.0%) (0.0%)	3 (30.0%) (2.1%)	0 (0.0%) (0.0%)	3 (30.0%) (1.9%)	3 (30.0%) (3.3%)	1 (10.0%) (0.6%)	10 (1.2%)
Devices number 4 and 5. . 9	10 (7.6%) (11.0%)	29 (22.0%) (20.3%)	30 (22.7%) (17.3%)	26 (19.7%) (16.5%)	12 (9.1%) (13.2%)	25 (18.9%) (14.0%)	132 (15.8%)
Devices number 1 or 2 and 4 and 5 10	2 (18.2%) (2.2%)	3 (27.3%) (2.1%)	3 (27.3%) (1.7%)	1 (9.1%) (0.6%)	0 (0.0%) (0.0%)	2 (18.2%) (1.1%)	11 (1.3%)
Other combinations of devices 11	8 (9.8%) (8.8%)	14 (17.1%) (9.8%)	11 (13.4%) (6.4%)	15 (18.3%) (9.5%)	8 (9.8%) (8.8%)	26 (31.7%) (14.5%)	82 (9.8%)
Column totals	91 (10.9%)	143 (17.1%)	173 (20.7%)	158 (18.9%)	91 (10.9%)	179 (21.4%)	

Number of responses	835
X^2.	119.223
df.	45

[a]Last two digits dropped in coding, so figures are in hundreds of volumes.

a high percentage of responses in the highest categories of students (above 2,500) and volumes (above 80,100). The combinations of control methods with the ones listed in the "other" category tend to be employed by libraries with large collections and student bodies. When "other" devices were specified singly, we find high percentages in the schools with small numbers of students and books.

In Table 28, control devices: dollars per FTE student, we adjust the relationship between control measures and expenditures for student body size. We find a low number of schools with high FTE student expenditures employing exit guards with turnstiles, probably accounted for by a combination of the high percentages of responses in the middle expenditure categories noted in Table 25 with large student bodies. We also find many schools with medium to high FTE student expenditures relying solely on the honor system, which is probably the result of the very high percentage of these schools with very small student bodies.

Table 29, control devices: type of institution, reveals a higher than expected number of universities and teachers' colleges using exit guards without turnstiles, and also, to a lesser extent, with turnstiles. A very high 37 per cent of technical, theological, fine arts, or other professional schools rely solely on the honor system. Another 20 per cent

TABLE 28

CONTROL DEVICES: DOLLARS PER FULL-TIME EQUIVALENT STUDENT

Control Devices	Dollars Per FTE Student[a] Less than 3.	3. - 5.	6. - 10.	11. - 99.	Row Totals
Exit guards (without turnstiles) . . 1	9 (15.0 %) (6.7 %)	27 (45.0 %) (7.8 %)	17 (28.3 %) (7.3 %)	7 (11.7 %) (6.2 %)	60 (7.3 %)
Exit guards (with turnstiles). . . . 2	5 (12.2 %) (3.7 %)	29 (70.7 %) (8.4 %)	6 (14.6 %) (2.6 %)	1 (2.4 %) (0.9 %)	41 (5.0 %)
Magnetic systems (magnetized plates in volumes). 3	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	0 (0.0 %)
Charging desk at entrance to provide visual control 4	53 (22.5 %) (39.3 %)	96 (40.7 %) (27.7 %)	61 (25.8 %) (26.3 %)	26 (11.0 %) (23.0 %)	236 (28.6 %)
Student body honor system. 5	14 (9.2 %) (10.4 %)	46 (30.1 %) (13.3 %)	63 (41.2 %) (27.2 %)	30 (19.6 %) (26.5 %)	153 (18.5 %)
Other. 6	10 (22.7 %) (7.4 %)	17 (38.6 %) (4.9 %)	9 (20.5 %) (3.9 %)	8 (18.2 %) (7.1 %)	44 (5.3 %)
Devices number 1 or 2 and 4. 7	8 (13.8 %) (5.9 %)	32 (55.2 %) (9.2 %)	13 (22.4 %) (5.6 %)	5 (8.6 %) (4.4 %)	58 (7.0 %)
Devices number 1 or 2 and 5. 8	1 (10.0 %) (0.7 %)	7 (70.0 %) (2.0 %)	1 (10.0 %) (0.4 %)	1 (10.0 %) (0.9 %)	10 (1.2 %)
Devices number 4 and 5 9	14 (10.7 %) (10.4 %)	50 (38.2 %) (14.5 %)	42 (32.1 %) (18.1 %)	25 (19.1 %) (22.1 %)	131 (15.9 %)
Devices number 1 or 2 and 4 and 5. .10	2 (18.2 %) (1.5 %)	4 (36.4 %) (1.2 %)	3 (27.3 %) (1.3 %)	2 (18.2 %) (1.8 %)	11 (1.3 %)
Other combinations of devices. . . .11	19 (23.2 %) (14.1 %)	38 (46.3 %) (11.0 %)	17 (20.7 %) (7.3 %)	8 (9.8 %) (7.1 %)	82 (9.9 %)
Column totals.	135 (16.3 %)	346 (41.9 %)	232 (28.1 %)	113 (13.7 %)	

Number of responses 826
X^2. . . . . 71.763
df. 27

[a]Last digit dropped in coding, so figures are in tens of dollars.

TABLE 29

CONTROL DEVICES: TYPE OF INSTITUTIONS

Control Devices	Type of Institutions: Liberal Arts	University	Junior College	Teachers College	TEC, THEO, FA, OTH[a]	TI, SP[b]	Row Totals
Exit guards (without turnstiles). 1	27 (43.5%) (7.2%)	6 (9.7%) (28.6%)	11 (17.7%) (5.3%)	16 (25.8%) (19.0%)	2 (3.2%) (1.5%)	0 (0.0%) (0.0%)	62 (7.4%)
Exit guards (with turnstiles). 2	20 (48.8%) (5.4%)	2 (4.9%) (9.5%)	8 (19.5%) (3.8%)	8 (19.5%) (9.5%)	3 (7.3%) (2.2%)	0 (0.0%) (0.0%)	41 (4.9%)
Magnetic systems (magnetized plates in volumes). . 3	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Charging desk at entrance to provide visual control. 4	105 (44.3%) (28.2%)	1 (0.4%) (4.8%)	69 (29.1%) (33.0%)	20 (8.4%) (23.8%)	36 (15.2%) (26.5%)	6 (2.5%) (40.0%)	237 (28.3%)
Student body honor system. 5	64 (40.5%) (17.2%)	1 (0.6%) (4.8%)	33 (20.9%) (15.8%)	8 (5.1%) (9.5%)	51 (32.3%) (37.5%)	1 (0.6%) (6.7%)	158 (18.9%)
Other. 6	20 (44.4%) (5.4%)	2 (4.4%) (9.5%)	17 (37.8%) (8.1%)	1 (2.2%) (1.2%)	3 (6.7%) (2.2%)	2 (4.4%) (13.3%)	45 (5.4%)
Devices number 1 or 2 and 4. 7	25 (41.7%) (6.7%)	3 (5.0%) (14.3%)	16 (26.7%) (7.7%)	10 (16.7%) (11.9%)	5 (8.3%) (3.7%)	1 (1.7%) (6.7%)	60 (7.2%)
Devices number 1 or 2 and 5. 8	4 (40.0%) (1.1%)	0 (0.0%) (0.0%)	3 (30.0%) (1.4%)	3 (30.0%) (3.6%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	10 (1.2%)
Devices number 4 and 5 . . 9	63 (47.7%) (16.9%)	4 (3.0%) (19.0%)	29 (22.0%) (13.9%)	6 (4.5%) (7.1%)	28 (21.2%) (20.6%)	2 (1.5%) (13.3%)	132 (15.8%)
Devices number 1 or 2 and 4 and 5. 10	3 (27.3%) (0.8%)	1 (9.1%) (4.8%)	3 (27.3%) (1.4%)	1 (9.1%) (1.2%)	2 (18.2%) (1.5%)	1 (9.1%) (6.7%)	11 (1.3%)
Other combinations of devices. 11	42 (51.2%) (11.3%)	1 (1.2%) (4.8%)	20 (24.4%) (9.6%)	11 (13.4%) (13.1%)	6 (7.3%) (4.4%)	2 (2.4%) (13.3%)	82 (9.8%)
Column totals.	373 (44.5%)	21 (2.5%)	209 (24.9%)	84 (10.0%)	136 (16.2%)	15 (1.8%)	

Number of responses	838
X^2.	136.594
df.	45

[a]Technical, Theological or Religious, Fine Arts, and other Professional Schools.

[b]Technical Institutes and Semi-Professional Schools.

use it in combination with charging desks with visual control. Only one university relies solely on the honor system or a charging desk with visual control. Liberal arts schools account for over half of the use of "other" methods in combination with various other controls.

The final cross tabulation with control devices which we will discuss was run with the loss figures. We must bear in mind that these tables never imply a causal relationship and we cannot state from the results of this particular one that the responses in the various categories are significantly different than the ones expected if the librarians using different control devices experience no difference in loss. Since there is no adjustment in the loss figures for the influence of large collections or student bodies, the most information we can glean from this table is a descriptive picture of the loss experienced at schools employing various controls. Even then we must take into account the low number of respondents in Table 30, compared with the high number of categories. We can conclude that it is surprising, given the background of the characteristics of the schools which tend to employ different devices, that the differences in loss are not more marked. We would expect, at least, given the high frequencies of large expenditures, collections, and number of students at schools employing exit guards, that a very high percentage of their losses would fall in the high loss categories. Is is especially interesting to note

TABLE 30

CONTROL DEVICES: ACTUAL LOSSES

Control Devices	Actual Losses 1 - 9	10 - 49	50 - 99	100 - 149	150 - 199
Exit guards (without turnstiles) . 1	0 (0.0%) (0.0%)	3 (30.0%) (8.8%)	1 (10.0%) (6.3%)	1 (10.0%) (4.3%)	0 (0.0%) (0.0%)
Exit guards (with turnstiles). . . 2	0 (0.0%) (0.0%)	1 (12.5%) (2.9%)	1 (12.5%) (6.3%)	3 (37.5%) (13.0%)	1 (12.5%) (10.0%)
Magnetic systems (magnetized plates in volumes) 3	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Charging desk at entrance to provide visual control 4	4 (8.2%) (50.0%)	12 (24.5%) (35.3%)	8 (16.3%) (50.0%)	5 (10.2%) (21.7%)	4 (8.2%) (40.0%)
Student body honor system. 5	2 (10.0%) (25.0%)	6 (30.0%) (17.6%)	3 (15.0%) (18.8%)	3 (15.0%) (13.0%)	3 (15.0%) (30.0%)
Other. 6	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (14.3%) (6.3%)	2 (28.6%) (8.7%)	0 (0.0%) (0.0%)
Devices number 1 or 2 and 4. . . . 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	2 (25.0%) (8.7%)	0 (0.0%) (0.0%)
Devices number 1 or 2 and 5. . . . 8	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Devices number 4 and 5 9	1 (4.8%) (12.5%)	9 (42.9%) (26.5%)	2 (9.5%) (12.5%)	3 (14.3%) (13.0%)	1 (4.8%) (10.0%)
Devices number 1 or 2 and 4 and 5 10	0 (0.0%) (0.0%)	1 (50.0%) (2.9%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Other combinations of devices. . .11	1 (7.1%) (12.5%)	2 (14.3%) (5.9%)	0 (0.0%) (0.0%)	4 (28.6%) (17.4%)	1 (7.1%) (10.0%)
Column totals.	8 (5.6%)	34 (23.6%)	16 (11.1%)	23 (16.0%)	10 (6.9%)

TABLE 30 - CONTINUED

Control Devices	Actual Losses 200 - 299	300 - 399	400 - 9,999	Row Totals
Exit guards (without turnstiles) . 1	2 (20.0%) (11.1%)	1 (10.0%) (9.1%)	2 (20.0%) (8.3%)	10 (6.9%)
Exit guards (with turnstiles). . . 2	1 (12.5%) (5.6%)	0 (0.0%) (0.0%)	1 (12.5%) (4.2%)	8 (5.6%)
Magnetic systems (magnetized plates in volumes) 3	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Charging desk at entrance to provide visual control 4	5 (10.2%) (27.8%)	3 (6.1%) (27.3%)	8 (16.3%) (33.3%)	49 (34.0%)
Student body honor system. 5	1 (5.0%) (5.6%)	1 (5.0%) (9.1%)	1 (5.0%) (4.2%)	20 (13.9%)
Other. 6	0 (0.0%) (0.0%)	1 (14.3%) (9.1%)	3 (42.9%) (12.5%)	7 (4.9%)
Devices number 1 or 2 and 4. . . . 7	2 (25.0%) (11.1%)	0 (0.0%) (0.0%)	4 (50.0%) (16.7%)	8 (5.6%)
Devices number 1 or 2 and 5. . . . 8	2 (40.0%) (11.1%)	1 (20.0%) (9.1%)	2 (40.0%) (8.3%)	5 (3.5%)
Devices number 4 and 5 9	2 (9.5%) (11.1%)	2 (9.5%) (18.2%)	1 (4.8%) (4.2%)	21 (14.6%)
Devices number 1 or 2 and 4 and 5 10	1 (50.0%) (5.6%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	2 (1.4%)
Other combinations of devices. . .11	2 (14.3%) (11.1%)	2 (14.3%) (18.2%)	2 (14.3%) (8.3%)	14 (9.7%)
Column totals.	18 (12.5%)	11 (7.6%)	24 (16.7%)	

Number of responses 144
X^2. . . . . 52.712
df. 63
Not significant at 5 % level

that half of the schools using exit guards without turnstiles lose less than 200 volumes per year. Close to half of the responses in the three loss categories below 100 are in the control category of charging desk with visual control, while the concentration of schools using this control measure in the low ranges in the tables of school characteristics tends to be about one-third. The explanation of the surprisingly high frequency of unadjusted loss figures in the low loss categories for exit guards and charging desks with visual control probably includes the effect of these control measures in reducing loss. However, concrete statements on this effect must be postponed until further discussion of the loss data in Chapter VI.

Table 31 displays the dates of those installations or discontinuations of control devices that fell between 1950 and 1965.[1] The pattern evident here is the increasing number of

---

[1]As the reader will probably have observed, the number of responses for the installation of control devices for 1950-51 is very high. These figures indicate a misinterpretation of the code established when the data was processed, rather than a disproportionately high number of installations of control devices during these years. The figures in the category actually present the installations indicated <u>before</u> 1951, rather than those confined to the years 1950-51. Since any response for installations before 1950 were themselves a misinterpretation of the question, it is best to disregard this category completely.

TABLE 31

CONTROL DEVICES - DATES INSTALLED OR DISCONTINUED

Date	Number Installed	Number Discontinued
Exit Guards (Without Turnstiles) - Total Respondents - 122		
1950 - 1951	5	-
1952 - 1953	-	-
1954 - 1955	2	-
1956 - 1957	4	-
1958 - 1959	6	-
1960 - 1961	20	-
1962 - 1963	30	4
1964 - 1965	47	9
Exit Guards (With Turnstiles) - Total Respondents - 88		
1950 - 1951	-	-
1952 - 1953	1	-
1954 - 1955	-	-
1956 - 1957	-	-
1958 - 1959	4	-
1960 - 1961	9	-
1962 - 1963	6	-
1964 - 1965	15	1
Charging Desk at Entrance To Provide Visual Control - Total Respondents - 498		
1950 - 1951	73	-
1952 - 1953	14	-
1954 - 1955	18	-
1956 - 1957	28	-
1958 - 1959	16	-
1960 - 1961	60	1
1962 - 1963	57	-
1964 - 1965	61	3

TABLE 31 - CONTINUED

Date	Number Installed	Number Discontinued
Student Body Honor System - Total Respondents - 329		
1950 - 1951	68	-
1952 - 1953	7	-
1954 - 1955	3	-
1956 - 1957	5	-
1958 - 1959	9	1
1960 - 1961	13	1
1962 - 1963	17	1
1964 - 1965	10	8
Other - Total Respondents - 129		
1950 - 1951	11	-
1952 - 1953	1	-
1954 - 1955	-	-
1956 - 1957	3	-
1958 - 1959	3	-
1960 - 1961	7	1
1962 - 1963	11	1
1964 - 1965	26	3

of installations. The highest total number of installations for 1960-65 is of charging desks to provide visual control over entrances to book stack and reading room areas. We see that 178 points of visual control were installed during this period, approximately 36 per cent of the total number of respondents (498) who reported using them.[1] The number of installations of exit guards without turnstiles is also high, 97 for 1960-65. This figure represents a very high percentage (78 per cent) of the total number reported. It is interesting, however, that 13 libraries reported discontinuing their usage between 1962 and 1965. Thirty libraries installed exit guards with turnstiles from 1960 to 1965; again this is a high percentage, 34 per cent of the number in use.

These combined facts, indicating that the number of control devices installed since the early 1950's has steadily increased and a substantial proportion of the control devices in use in 1966 were installed during or after 1960, may be explained to some extent by growth in libraries over this period. We have seen that the use of exit guards in particular is related to schools with large numbers of students and volumes, and expenditures. As collection size and student bodies grew

---

[1]The total number of responses to the six categories of control devices, those devices used in combination with others <u>not</u> being eliminated, are given in the footnote to Table 24.

from 1960 to 1966, a substantial percentage of library administrators were likely to have installed control measures to protect their larger libraries. However, the writer believes that some of the increase in the use of control measures is due to the growing concern of librarians with the problem of losses and their attempts to provide means to control them.

E. J. Josey, discussing the implications of the results of the survey on the community use of academic libraries cited in footnote 1, p. 53 states "The evolution of rigid controls of entrances and exits in academic libraries is more or less a gradual process of response to the need for security, for George Elser reported that only half of the 783 respondents . . . had controls."[1] The results of the present study give supporting evidencd to this "gradual process of response." Figures from the U.S. Office of Education, Library Statistics of Colleges and Universities Institutional Data, 1959/60-1965/66, reported in a table in the Bowker Annual of Library and Book Trade Information, 1970,[2] indicate that the number of libraries in 1960/61 was 1,975, in 1964/65, 2,175. This increase of 200 new libraries during those five years represents a 10 per cent increase in the number of libraries. Assuming that all 10 per

---

[1] College and Research Libraries, May, 1967, p. 200.

[2] (New York: Bowker, 1970), 14-15.

cent of these new facilities had control devices included in their design, we are left with a substantial remainder of percentages (from 24 per cent to 68 per cent) of installations between 1960 and 1966 of exit guards with and without turnstiles, and charging desks with visual control. Some of these new installations may have been built into new libraries which replace or supplement existing library facilities. This probability diminishes but little the significance of these new installations as responses to the need for control. The fact that the librarians designing new libraries, whether they are at new academic institutions or replacing existing library facilities, feel the need to include control measures in the new designs is evidence of a response to the need for security due either to library growth or increasing concern over the loss problem.[1]

---

[1]According to the table in the Bowker Annual, 1970, from 1964/65 to 1968/69 the number of libraries increased 16 per cent from 2,175 to 2,530. The likelihood that the trend toward increasing installations of control devices continues during these years and at the present, both in new and existing library facilities, is given partial evidence in the high number of installations of the electronic anti-pilferage devices. Also the results of the questionnaire survey on the use of and reaction to turnstiles and checkers in libraries, reported in 1968 by Ernest Weyhrauch and Mary Thurman, op. cit., p. 111, showed that while 28 of the 73 respondents were using turnstiles, six more institutions said they would be using them in the future.

One final point to consider in Table 31 is the relatively low number of libraries which have initiated the use of an honor system to control loss: since 1960, only 40 libraries reported adopting this measure, less than 13 per cent of the total number of users. Although this means of minimal control is surpassed in usage only by placement of the charging desk to provide visual control, the percentage of libraries recently adopting it, 13 per cent, is far lower than the 36 per cent installing the method of visual control. In addition, since 1960, ten libraries reported discontinuing the use of the honor system, at least in regard to library circulation policies. The low percentage of adoption, combined with the relatively high number of reports of discontinuation and the large number of respondents (153) who use the honor system in combination with guards and charging desk control (refer to Table 24, categories 8, 9, and 10, points to a hesitancy to trust, at least solely, in this "inner-directed" control measure.

One may consider that many libraries did not actually "install" the honor system as a control measure, but rather function with their policies regulated by it as part of the entire university or college; therefore, the use of the honor system may not be accurately reflected in the responses to the question. Even granted the validity of this assumption,

however, we are still left with the large number of discontinuations and combinations of control measures to indicate a lack of confidence in the effectiveness of the honor system.

Later in this chapter we shall discuss the answers to Question 12A, which asked the respondents to specify those devices they felt had effected a change in loss. In that discussion we shall see that a very small percentage of librarians mentioned the honor system as an effective control device.

Before leaving Question 9 (Tables 24 and 31) we shall elaborate briefly on some of the responses received in category 6, "Other."[1] Some libraries reported variations of exit guards with or without turnstiles, such as

---

[1]In order to check on the accuracy of the coding of the dates of installation and discontinuation of this question, and of the other "open-ended" questions in this and the next chapter, the responses to these questions in a sample of approximately 75 questionnaires were examined closely by the writer and transcribed. These descriptions and comments have been used to broaden the writer's thinking so that it is not confined to the categories established to structure the questions on the questionnaire or created later when the open-ended questions were coded. Despite the fact that a careful examination of the responses to these and other open-ended questions in a sample of another 100 questionnaires was made and the responses to an open-ended question from at least fifty questionnaires were tabulated and examined before the code for the question was established, the responses to many of these questions were so diverse that it was impossible to establish a meaningful code containing all the interesting or even important ones. The descriptions of "other" control devices and the other responses to open-ended questions in these chapters were taken from the transcriptions from the 75 questionnaires mentioned initially in this footnote.

Occasional door check
Student aid checks at door occasionally
Monitors on duty regularly
Charging desk with turnstile
Turnstile with desk assistants watching
Student checking station near main exit (this was reported as unsatisfactory and discontinued)
Entrance turnstile and visual control at exit

A few libraries indicated as control measures methods which were also examined in the section of the questionnaire relating to informing the library community of the loss problem, emphasizing that these attempts, if successful, do function as control devices. One librarian noted,

"Faculty who stress honorable behavior our best 'device.' Student attitude is good, but needs constant build up."

Another librarian wrote, "Try to have a relationship and understanding with the student body that the library and the books are for their personal benefit. However, this does not always produce the desired result."

A third respondent mentioned talks by the President, Dean, and student leaders. A fourth mentioned "publicity concerning detected missing volumes."

A third type of response stressed the closing of all exits to the library except the ones near the charging desk:

Check out desk placed by the <u>one</u> [underlining librarian's] stack exit.
Emergency exits closed off. Two exits some distance from desk.

Crash alarm locks on two exits.

A few librarians mentioned restricting access to the library's stacks or to certain types of material:

Some closed stacks
Popular expensive magazines must be requested and charged out on loan desk--not open shelves anymore.
Closed stacks to all except the few hundred issued stack permits
Limited open stacks only
Some reserve books behind desk, mostly psychology and art
Desk reserve of a small number of volumes having a special talent for disappearing and re-appearing.

One librarian mentioned a very liberal circulation policy, another that the school's dormitories are searched irregularly during college recesses, a third, perhaps despondently, "general watchfulness, apparently not too effective," and a fourth, Book-a-matic, raised-letter plastic cards in books.

A few librarians commented on or indicated a combination of exit inspection with a charging desk to provide visual control, some of the comments pertaining to the next question on the questionnaire relating to the thoroughness of the exit inspection:

Assistants at charging desk examines books. Briefcases are not allowed in the library
We have a rope similar to a theater rope which guides all persons by desk. We check all briefcases and books
Statement indicating "All persons leaving the second floor shall be required to demonstrate that materials being carried out are either not the property of ------ Library or have been checked out properly. Persons wishing to keep contents of briefcases or other receptacles private may deposit them at the control point to be reclaimed upon leaving the library."

Finally, one librarian gave no other response to the question than the laconic comment, "Nothing will deter the determined thief."

Table 32 displays the responses to Question 10, regarding the type of inspection carried out by the exit guards. We observe that 36 per cent of the 210 respondents claim the guards make a thorough search. The terms thorough and cursory are only relative ones to be sure, but if, in fact, over one-third of the guard systems are conducting thorough searches, we should definitely expect these systems to be effective in apprehending students with uncharged materials and also providing a deterrent effect on would-be offenders. Furthermore, we should expect the effectiveness of these systems to be apparent in the responses to Question 12, which asked the librarians if any of their control devices resulted in a change in losses. When we arrive at the discussion of Question 12 a little further on in this chapter, we shall see that by far the largest number of librarians indicating that the devices did result in a change in losses selected exit guards, exit controls, or controlled turnstiles as the device responsible for the change.

Table 33 concerns the formal disciplinary measures prescribed for students apprehended with stolen library materials.

TABLE 32

THOROUGH VERSUS CURSORY INSPECTION

If there is an exit guard, does the inspection generally tend to be thorough or cursory?

	Number Of Responses	Percentage Of Responses
Thorough	77	36.7
Cursory.	127	60.5
Don't know	6	2.9

Total responses 210

Blank 754

TABLE 33

FORMAL DISCIPLINARY MEASURES

Does your school have a formal or written policy prescribing disciplinary measures and penalties for book thefts?

	Number of Responses	Percentage of Responses
Yes	174	18.8
No	754	81.3
Total responses 928		
Blank 36		

If yes, within the past decade or so, how often have these measures been invoked?

	Number of Responses	Percentage of Responses
Frequently	17	10.0
Occasionally	43	25.3
Rarely	84	49.4
Never.	26	15.3
Total responses 170		
Blank 794		

Over 81 per cent of the respondents said they had no such policy.[1] Perhaps the most surprising result of this question is that 10 per cent of those libraries that do have such a policy stated they invoked it frequently and another 25 per cent use it occasionally. The use of the disciplinary measures presupposes of course the apprehension of the offenders, an aspect of the problem of book thefts neglected in this study. How offenders are apprehended, the number apprehended each year, whether their offense is made public, and if so, what is the reaction of the student body, are questions which future studies may consider. Such studies might also examine the content of these policies and the relative effectiveness of different measures and penalties.

Table 34 displays the results of the question designed to test the respondents' opinion (distinguished from the direct

---

[1]In the cross tabulation of the results of this question with loss (Table 80 in Appendix B) there is a tendency for schools with very low loss (less than 50 volumes) to have a disciplinary policy. Again we must emphasize that this table provides purely descriptive data, since there was no adjustment for size of the school or collection. Since we ran no cross tabulations of this question with school characteristics, we cannot tell whether these policies tend to exist in schools with small student bodies and collections (when we would expect low loss), or whether there is a definite influence of these policies on loss. The responses to Question 12A reveal that disciplinary or punitive measures were mentioned as effective by 15 per cent of its respondents, a response which at best gives some slight support to the theory of the effectiveness of these policies.

TABLE 34

EFFECT OF CONTROL DEVICES ON CHANGE IN LOSS

Have any of these control devices or disciplinary measures resulted in any change in losses?

	Number of Respondents	Percentage of Respondents
Yes	141	26.6
No	390	73.4

Total respondents 531
Blank 433

IF YES, Please specify devices and evidence of change.

Cannot tell or are not sure	5	4.7
Exit guards, exit controls or controlled turnstiles . .	47	44.3
Control checkpoint or charge desk providing visual control	10	9.4
Other physical devices, i.e. mirrors, restricting use or access to materials	8	7.5
Disciplinary or punitive measures, i.e. fines, dismissal withholding grades	16	15.1
Student body honor system	4	3.8
Other	16	15.1

Total responses 106
Blank 858

evidence of the loss figures gathered in Question 6) concerning the effectiveness of the control devices and disciplinary measures. Only 531 librarians answered Question 12, a limited response which lessens somewhat the validity of the conclusions we draw from it as we are unable to determine what biases may be inherent in a response which includes only 55 per cent of the study's respondents. Of those librarians who did respond, 141, or 26 per cent felt that control devices or disciplinary measures resulted in a change in losses. Emphasizing the negative aspect of the response, 73 per cent felt that the use of these measures did not result in a change in loss and therefore apparently were not effective in preventing or controlling it.[1]

---

[1]Two of the cross tabulations between the responses to Question 12 and school characteristics were significant at the 1 per cent or 5 per cent level of confidence. In Tables 81 and 82 in Appendix B we see that libraries at schools with large student bodies and high book expenditures (above $50,000), tend to believe control devices effective. The trend is especially evident in Table 81 where we see a definite split of opinion between librarians at schools with greater and less than 1,500 students.

The generally negative result to this question is confirmed by the results of a study reported briefly by Linda H. Comet and G. Eleanor Rowe, "60-College Security Study Finds Few Satisfied," Library Journal, XCIII (May 1, 1968), 1848. Of 52 respondents, "less than half the college libraries using security systems of any kind were satisfied with their effectiveness." The study also found that best results seemed to come from guarded mechanical turnstiles, a conclusion also in line with the results of the present study.

This question was phrased with the neutral wording, "change in losses," instead of being structured in a more precise manner (such as "Do you feel that these control devices or disciplinary measures have been effective in preventing loss. Please supply the evidence of the effectiveness") for several reasons. First, we wished to avoid leading the librarian into a positive statement he would not have made if the wording had been different. Second, it is possible that the installation of control devices may cause an increase in loss, where students may resent the device sufficiently to take books they would not have considered taking before the installation of the device or where they treat the devices as a challenge to their ingenuity. (Such a negative effect of the use of control measures did not appear in the coding of the answers to Question 12A or in the sample of the 76 questionnaires the writer examined in detail.) Third, we hoped that a neutral phrasing would compel the respondent to defend a positive statement with whatever statistical or concrete evidence he had.

Of the 141 librarians who responded affirmatively to Question 12, 106 specified the devices they considered responsible for the change. The responses to Question 12A, especially in their precoded complete form, are definitely positive, indicating that the control measures have resulted in a <u>reduction</u> in losses. Ten of the 47 responses transcribed from the sample

of 76 questionnaires examined in detail contain actual loss figures in support of the respondent's opinion.[1]

Forty-four per cent of the respondents specifying effective control measures listed exit guards, exit controls, or controlled turnstiles. A few of the complete responses in this category, taken from the sample, state:

> Inventory figures indicate improvement due to turnstiles and constant guard.
>
> Book loss was almost cut in half when turnstiles were installed for half of the year. Close supervision from charging desk was in effect all of the year. The first full year that the turnstiles were in operation, loss was reduced by approximately an additional 30 per cent.
>
> Although we have no statistics to support any evidence that we have lost fewer books and periodicals since providing guard surveillance, our staff members believe that there has been a significant decrease in pilferage losses.

The categories containing the next largest number of respondents (16, or 15 per cent), were replies specifying disciplinary or punitive measures, and the catch-all category of "Other." Most of the responses in the latter category in fact did not mention a control measure at all, but simply stated the belief that

---

[1]A fact perhaps worth noting at this time is that 6 of the responses with figures supporting a reduction in losses specify exit guards or controlled turnstiles as the devices responsible for the change, while the remaining four list a central checkpoint or charge desk with visual control In Chapter VI, in the discussion on loss figures, we shall discuss the data from 25 libraries supplied figures before and after the installation of controls.

losses were reduced; an exception was this reply:

> Merely running the charging desk like a business, being sure someone is always on duty, being able and willing to answer where a book is located and why. Being able to quickly supply a needed book, and thus promoting a spirit of cooperation for others who might not be able to use a book were it stolen.

Of the 16 responses mentioning disciplinary or punitive measures, a number seemed to apply to charged material that was overdue or not returned, rather than to volumes that were taken uncharged, and the persons who had taken them apprehended later. Some of those that did apply to uncharged material are as follows:

> Stolen property is dealt with by the disciplinary committee of the faculty very effectively.
> In this small college, expulsion or suspension for library theft becomes known to all, with a probably deterrent effect.
> Dismissal has resulted on occasion. This appears to cause others to be more careful of actions.
> Grades with-held when party known.
> On several occasions the culprit has been identified and discussion of the problem with a $5.00 penalty has been invoked. They admit the right's on our side but evidently feel the risk of not "getting caught" is worth taking.
> I truly don't think we have repeats. More serious penalty is promised for repeats. One student had to pay $20.00 at the end of last year.[1]

Nine per cent of the respondents mentioned a central check point or charge desk providing visual control. Two of

---

[1]An interesting cross tabulation of these five answers with the respondent's answers to Questions 11 and 11A reveal that they run the gamut from "No formal disciplinary policy" to "Rarely," "occasionally," and "Frequently" invoked.

the responses in the sample seem especially interesting:

> Visual control from charging desk has perhaps had some influence. Exit guard was the result of a new librarian and the over-all problem seemed so small that an exit guard was discontinued.

> Noticeable drop in count loss. Installation of emergency fire exits made students more aware of the need to charge out materials--they now have to pass charging desk.

Eight respondents, or 7 per cent, mentioned other kinds of physical devices restricting access to materials:

> Current popular advertising art periodicals are no longer stolen since they are now kept behind loan desk and must be requested and charged out.

> The desk reserves worked--previous losses few in number but were of key volumes at key times. (Often came back later)

Perhaps the most interesting figure in this table is the 4 respondents, or less than 4 per cent, who listed the student body honor system as effecting a change in losses. Two of the relevant sample replies indicate:

> Losses decreased after President, Deans, and student leaders recognized that the student body honor code should be applied. Publication of Honor Court action in student paper if any disciplinary matter relating to library takes place.

Although the responses to this question are open-ended and therefore do not match precisely the categories established in the earlier question, the above figures on the effectiveness of controls are interesting when compared with the figures in Table 24, concerning the use of the various control measures.[1]

---

[1]As we stated earlier, the apparently well-defined results in Table 24 are somewhat blurred by an overlap in the

Two hundred ten, or 25 per cent, of the respondents to that question use an exit guard system, either with or without turnstiles; referring to Table 34, we see that 47, or 44 per cent, specified that this type of device effects a change in loss. This display of confidence in exit systems is even more impressive in light of the fact that 498, or almost 60 per cent of the respondents in Table 24, use a charging desk to provide visual control, while only 10 respondents to Table 34, or 9 per cent, mentioned it as an effective device in their library. An even larger gap between use and judged effectiveness is evident in the figures for the honor system; 329 librarians, 39.3 per cent, indicate they use it as a control measure, but only 4, or 3.8 per cent of the respondents to Table 34 believe it effects a change in their losses.

---

categories, "exit guards, exit controls, or controlled turnstiles," and "central checkpoint or charge desk providing visual control." That is, some libraries checking the category "charging desk with visual control" in Question 9 might provide a desk with a turnstile or other barriers to direct access to exits, the specifications of which in the answer to Question 12A may have included it in category 2 instead of 3. Also, some of the responses to the "other" category in Question 9 might increase the percentage of responses to the categories of exit guards. The results are clear, however, that there are few responses that a charging desk which provides only visual control is effective in reducing loss and although the percentage of exit guard systems in use may be more than 25 per cent if some of the "other" responses were included in it, such systems are cited as effective by the largest number of respondents to Question 12A.

The comparison of these two tables, combined with the figures in Table 31, indicating the dates of recent installation of the various control devices, leads us to some interesting conclusions. We see exit guards without turnstiles, having the greatest per cent of recent installations per total number in use, 78 per cent, and exit guards with turnstiles, having the third greatest per cent of recent installations per use, 34 per cent, mentioned as an effective device by almost three times as many respondents as the next most frequently mentioned measure, that is, by 44 per cent of the respondents. Charging desks to provide visual control, in use in almost 60 per cent of the libraries responding to Question 9, which have the second greatest per cent of recent installation per use, 36 per cent (actually only 2 per cent above exit guards with turnstiles), are believed effective by only 10 librarians, or 9 per cent of the respondents in Table 34. (As footnote 1, p. 83 shows, however, at least 4 of these librarians based their opinion on loss figures.) Honor systems, in use in almost 40 per cent of the libraries responding to Question 9, but having only 13 per cent of recent installations per total use, are considered effective by only 4, or 3 per cent of the 106 respondents to Question 12A.

Comparing Tables 33, concerning formal disciplinary policy, and 34, concerning the effectiveness of control

measures, we find that 18 per cent of the 928 respondents to the former do have such a policy, while 15 per cent of the 106 respondents to Question 12A believe that disciplinary or punitive measures are effective in controlling loss.

Finally, the data from Table 32 concerning the thoroughness of the exit guard inspection reveals that over one-third of the respondents believe the inspection in their library to be thorough, rather than cursory. This claim to thorough, and therefore presumably effective, searches seems to be substantiated, at least in part, by the relatively high number of respondents to Table 34 who believe the guard system reduces loss.

Twenty-five respondents supplied actual figures in Question 6 before and after the installation of control devices. The analysis of these figures, which shall be discussed in Chapter VI, definitely reinforces the positive opinions of those 106 librarians, that control devices do produce a marked change in loss. It also generally confirms the relative effectiveness indicated by the differences in percentages of the devices listed. That is, exit guards effected greater decrease than charging desks with visual control, which in turn were more effective than the honor system.

To sum up the data discussed in this chapter on control devices, we have seen that over 86 per cent of the study's

respondents use a control device to try to reduce their book losses although 18 per cent employ the very minimal measure of a student body honor system. A substantial percentage of these devices, the actual percentage varying with the specific device, have been installed recently, that is, since 1960. The largest number of devices presently in use, charging desk situated so as to provide visual control, have the second highest percentage of recent installations. Exit guard systems, with or without turnstiles, though they are used at present by a considerably lower percentage of the responding libraries, have a high rate of recent installations per total use, 34 per cent and 78 per cent respectively. The student body honor system, though presently number two in total use, is frequently used in combination with the above systems, and has a low rate of recent installation per use.

The opinion of librarians concerning the effectiveness of these measures in reducing loss is largely negative; 73 per cent of the 531 librarians responding to the question on effectiveness indicated that these measures did not result in a change in loss. However, the 106 respondents who answered affirmatively and specified the devices which effected the change gave strongly positive opinions that the control measures did reduce loss, some supported by the evidence of loss figures.

CHAPTER V

OTHER METHODS OF CONTROLLING THE LOSS PROBLEM

Let us now turn our attention from control devices and disciplinary measures to other methods of dealing with the loss problem, some of which attempt to reach and work within the larger academic community and the student body as a whole.

Question 13 was designed to ascertain how many libraries attempt to inform the larger community of the loss problem. In Chapter III, where we discussed librarians' opinions concerning the seriousness of the loss problem, we found that 78 per cent of the respondents in Table 4 felt the problem to be "somewhat" or "very" serious. Taking this knowledge as background information, we find in Table 35 in this chapter that a similarly high percentage (almost 63 per cent) attempt to inform the academic community of the loss problem, presumably because they feel it is a serious one. Taking our reasoning a step farther, we may add that the control devices discussed in the previous chapter are not effective enough to prevent almost

TABLE 35

ATTEMPTS TO INFORM THE COMMUNITY

During the last three years has the library made any attempt to inform the academic community of the problem of book losses?

	Number of Responses	Percentage of Responses
Yes	564	62.7
No	336	37.3
Number of responses 900		
Blank. 64		
IF YES, which methods have you used?		
Letters to the faculty.	73	13.3
Notices posted in the library	21	3.8
Articles in campus newspapers	46	8.4
Other	135	24.6
Methods number 1 and 2.	28	5.1
Methods number 1 and 3.	64	11.7
Methods number 1 and 4.	22	4.0
Methods number 2 and 3.	19	3.5
Methods number 2 and 4.	11	2.0
Methods number 3 and 4.	33	6.0
Combinations of 3 or 4 methods.	97	17.6
Number of responses 549		
Blank. 415		

two-thirds of the respondents from trying additional ways of coping with the problem.[1]

Two additional questions were included to get the respondents to elaborate upon the kinds of methods they use. The bottom of Table 35 displays the responses to the structured portion of the question. The most interesting feature of this portion of the table shows us that almost half of the respondents use not only one method, but more than one, and 17 per cent use three or four. Except for the miscellaneous "other" category, the category "letters to the faculty" received the largest number of single responses, 13 per cent, and it was used in combinations with one other method by an additional 20 per cent of the respondents.[2]

---

[1]The cross tabulation of loss with Question 13, displayed in Appendix B, Table 83 indicates that it is the libraries which suffer larger, rather than smaller losses that inform the community of the loss problem.

[2]The cross tabulations of Question 13A, which were run with 4 school characteristics (number of students, total expenditures, book expenditures, and number of volumes) are included in Appendix B, Tables 84, 85, 86, and 87 respectively. Taken as a group, they indicate that the method of posting notices in the library tends to be used more by libraries with small collections, budgets, and student bodies, while articles tend to be placed in campus papers by librarians with larger collections, budgets, and student bodies. On the other hand, writing letters to the faculty and the use of the miscellaneous methods mentioned under "other" are employed by librarians whose libraries and schools run the whole gamut of large to small. The combinations of methods follow, in general, the pattern one would expect from the results of the methods used individually.

Many of the responses falling into the "other" category mentioned other means of communicating with the faculty, such as memorandums or verbal communication with individual members or more formal presentations in faculty meetings. Fewer respondents mentioned meetings of a library committee, discussion with members of the school's administration, i.e., president or dean of students, or enlisting the aid of the student governing body. A few librarians mentioned talks with incoming freshman, and one school listed the circulation of an IBM list of lost books.

The further elaboration of methods of informing the community which was elicited in a third section of Question 13 drew responses which are fundamentally similar to the ones discussed above. A few of the most concise and inclusive include:

> Notices in library have simply mentioned . . . mutilation, theft, and delinquencies and the resulting inconvenience to patrons. Letters to College administration have pointed up the cost of such losses and the deterioration in quality of service which results.

> We notify the faculty member concerned as to the books lost in their particular area. List books we know are lost or are reported lost on the bulletin board. Once a year an article is published in the school newspaper about reserve books that are stolen.

> When there is heavy practice of taking books, we present it to the faculty and to the ASB Council. Brief class discussions pinpoint the problem. The ASB has student editorials in the papers on campus.

Two of the more unique methods reported are:

Letter and a list of all missing books is sent to the parents of each student.

Student body at _____ during 1923-37 was charged for all missing books. First year, the charges were about $3.50 for each student. After five years, the situation improved and the charges dwindled to $0.15 per student.

A secondary aspect of the attempt to awaken concern in the community which was not mentioned specifically in the question on the questionnaire is the possibility of the need to appeal to faculty members, as well as students, to avoid taking uncharged material from the library. Indeed, some librarians consider faculty members as primary offenders and believe that once their cooperation is secured, the loss problem in their libraries would be greatly alleviated. The responses to this study, however, while frequently mentioning methods of informing faculty members of the loss problem, many times specified that the information was given with the view that it would be passed on to the students by the faculty; only in a very few instances did the librarians indicate faculty members might be responsible for some of the losses. Therefore, to look ahead to the next question, evidence of student concern is considered the primary positive result of a successful attempt to tell the academic community about the problem of losses and the one most likely to effect a major reduction in thefts.

A third aspect of awakening concern in the academic

community which was mentioned briefly in one of the librarians' responses transcribed above, may be directed at the school's administration, sometimes in order to persuade them to appropriate funds to replace the missing volumes or to install control devices. A few of the study's respondents attached copies of their annual reports to the administration which included estimates of the replacement cost of the lost volumes, the cost of the inventories to identify these volumes, or the cost of installing or implementing a particular method of reducing their losses.

Turning to the next part of the questionnaire, we ask, "Does all this effort to inform the community result in an attitude of student concern?" Question 14 was designed to give us an answer, and we find in Table 36 that the results are rather disappointing. Almost 70 per cent of the respondents indicated that such concern was not in evidence.[1] Of the 280

---

[1]Of the cross tabulations run between the first section of Question 14 and school characteristics, several are displayed in Tables 88, 89, 90, and 91 in Appendix B. In the first, number of students: student concern, we find the surprising result that in the schools with small student bodies more librarians indicated there was no evidence of student concern. When the study was designed, the investigator had anticipated that the small schools, with presumably more cohesive student bodies where many of the students knew each other personally, would be the most likely institutions to foster an atmosphere of concern. Two related factors may possibly account for this reversal of expectation. We see in Table 89, actual losses: student concern, that librarians who answer "no" to the question of student concern tend to

TABLE 36

STUDENT CONCERN

Has there been student concern over the problem of book losses, such as articles in student papers or the formulation of student committees?

	Number of Responses	Percentage of Responses
Yes	280	30.2
No.	648	69.8
Total responses 928		
Blank 36		

If yes, please specify which and describe briefly.

Articles in school paper	119	50.2
Student committees formed or discussion in student council .	44	18.6
Individual concern expressed	29	12.2
Other	19	8.0
Methods number 1 and 2	21	8.9
Methods number 1 and 4	5	2.1
Number of responses 237		
Blank 727		

librarians who did feel there was student concern on campus, 237 provided a brief description of the form it takes, displayed in the second half of the table. By far the most frequently cited evidence of concern is articles in the school paper, cited as a single response by over 50 per cent of the respondents, and in combination with other evidence of concern by an additional 11 per cent. The formation of student committees and discussion in the student council was mentioned alone or in combination with articles in the school paper by 27 per cent of the question's respondents. Twelve per cent mentioned the concern expressed by students on an individual basis.

A few of the specific means of expressing concern which librarians reported include:

> Occasional students report missing reserve books to the Judicial Board of the Student Government Association.

---

experience lower loss. And we found earlier in the chapter that where there is lower loss, the librarians tend not to inform the community of the problem to awaken the student concern. Table 90, student concern: type of institution, shows that more librarians at universities, liberal arts colleges, and teachers' colleges feel there is student concern on their campuses. And in Table 91 we find more evidence of student concern where the percentage of part-time undergraduates is less than 11 per cent. It is logical that part-time students are less likely to be concerned with the loss problem than full-time or graduate students are. However, we are unable to analyze this bit of data further, because neither of the other two cross tabulations which are counterparts to this one, i.e., percentage of full-time undergraduates or percentage of graduate students, was statistically significant.

The Honor Court has, on occasion, checked student rooms.

The student senate has had discussions of the problem.

About five years ago we had a rash of "temporary" thefts. Students' organization specifically included preservation of library materials in the honor code.

We now have a student library committee that is part of the student government. They help in locating lost books in the dorms on the campus and offer suggestions about better library services.

A very few vocal students this year and last have been requesting that we hire "book watchers."

One article was written by a semi-concerned student in the irregularly published school paper three years ago.

In some cases individual students have returned uncharged books found in dormitories, but this is only an individual concern and does not reflect general student attitudes.

Students have complained of missing volumes to circulation staff.

Students are mainly concerned when a book they need is missing.

In the first part of this chapter, we discovered that almost 63 per cent of the respondents to Question 13 attempted to inform the academic community of the loss problem. And we received a rather poor 30 per cent positive response to our question involving evidence of student concern. Taking our discussion a stage farther, we come to Question 15, designed to ascertain the respondents' opinion concerning the effectiveness of informing the community or of student concern in producing a change in book losses or in library policy. Again in Question 15, as in Question 12, a neutral wording was used

so that evidence of an increase, as well as a decrease, in loss, or an increase or decrease in the restrictiveness of library policy, could be indicated. In Table 37 we find that 82 per cent of the respondents replied that neither the library's efforts in informing the community, nor student concern, if present, effected a change in loss or in library policy. One hundred twenty-seven respondents answered in the affirmative and 92 give a brief description of the action they felt produced the change. It is interesting to note that 26 (28 per cent) of these responses mentioned the action or concern of individual students, since only 29 librarians specified such individual action as evidence of student concern in the previous question. We find only six respondents mentioning articles or editorials in the school paper, the category in Question 14 which received 60 per cent of the total responses. A large percentage of the responses fell into the "other" category. Some of the replies transcribed in full from the questionnaires on which the open-ended questions were examined in detail,[1] indicates that a number of these concentrated on the results of the change in losses (mostly decreases in losses) rather than the method by which they were effected, i.e.,

---

[1]See Chapter IV, footnote 1, p. 73. Within this sample, there were only 18 replies to Question 15A.

TABLE 37

EFFECT OF INFORMING COMMUNITY ON CHANGE IN BOOK LOSSES

Is there any evidence that either informing the community or student concern has resulted in any change in book losses or in library policy?

	Number of Responses	Percentage of Responses
Yes	127	17.3
No.	607	82.7

Total responses 734
Blank. 230

If yes, please specify which and describe briefly.

	Number of Responses	Percentage of Responses
Newspaper editorials and/or articles	6	6.5
Formation or activity of a student library committee	2	2.2
Discussion in or activity of the student governing body. . . .	5	5.4
Action, discussion or concern expressed by individual students, in the library or to the staff	26	28.3
Action of the library in informing the students of the problem of losses.	14	15.2
Other.	39	42.4

Total responses. . . 92
Blank. 872

Users have become accustomed to signing out material.

Not so many books taken without signing out for them.

At least books unaccountably unavailable are much fewer.

A few of the respondents used the space to elaborate on their negative reply to the first section of the question:

No, because enrollment is growing so fast. Our library is so crowded it is difficult to watch students.

It simply advertised what everybody was doing.

Two librarians mentioned the fear of an increase in loss because of the "publicity," unfortunately without elaborating on the type of publicity they considered might be harmful:

We have felt that publicity would unnecessarily alarm the academic community and perhaps increase the problem.

It is my opinion that the wrong kind of student publicity could result in an increase, but I won't know until next summer's inventory.

Only one librarian in the subsample directed her reply to a change in library policy rather than in losses.

I have refused to change the library's "open access" policy, not wishing to penalize the many because of a few.

Within the sample of replies examined in detail, about one-half mentioned a decrease in loss or a return of uncharged material as the result of the library's efforts or of the student concern; examples of these replies not reported already include,

. . . books wander back after faculty discusses missing volumes in class.

> Books found in classrooms, fraternity houses, etc., have been returned.

The other half of the responses are well characterized either by negative comments some of which are transcribed above or by the half-hearted affirmative:

> As with any problem which arises, the students are mindful for awhile and then they slack off.

A comparison of the replies to this question with the response to the question concerning the effectiveness of control devices discussed in the previous chapter may be fruitful.[1] In the latter question we found that while 73 per cent of its respondents indicated control devices did not produce a change in

---

[1]The cross tabulation between these two questions and between the other questions discussed in this chapter are quite interesting because they broaden our knowledge of the responses to them considerably. Table 92 in Appendix B, effect of informing the community: effect of control devices, shows that respondents who answered affirmatively to the effectiveness of informing the community definitely tended to answer "yes" to the effectiveness of control devices.

In the cross tabulations run with Question 13, we see in Table 93 in the Appendix that a high percentage of the respondents who attempt to inform the community of the loss problem feel there is student concern on their campuses. Only 33 librarians indicated the existence of student concern although they did not attempt to inform the community. Table 94 indicates that, likewise, although to a lesser degree, librarians who inform the community tend to feel that their efforts or student concern produce a notable effect, while logically a high percentage of those librarians who do not attempt to inform the community feel that there is no effect on loss (presumably of the student concern that exists in their schools). In Table 95 we find also that the respondents who see evidence of student concern on their campuses tend to feel that it, or their attempts to inform the community, are effective. We find only 44 librarians who do not report student concern indicating a change in losses, presumably because of their efforts in informing the community.

loss, the respondents who answered affirmatively and made comments in the second half of the question expressed strongly affirmative opinions that these devices did reduce their losses. Some of them even presented statistical evidence to back up their statements. The question on the effectiveness of informing the community of the problem or of student concern elicited an even stronger negative response (82 per cent) in the first part of the question; in the second part, the respondents were less willing to state strongly that they believed such efforts led to a substantial decrease in loss. It is also interesting to note that while only 55 per cent of the study's respondents answered the first half of Question 12, 106 answered Question 12A; 76 per cent of the study's respondents answered Question 15, but only 92 provided answers in Question 15A.

The writer believes that the significance of this comparison lies a little deeper than sole reliance on number of respondents, although the numerical comparison is an important part of it. She feels it is very significant that 45 per cent of the respondents were not willing to make a judgment on the effect of control devices or disciplinary measures, even though the wording of the question was neutral and referred more or less directly to the questions above it, i.e., "Have any of <u>these</u> control devices or disciplinary measures resulted in any change in losses?" This response seems to point out

the uncertainty of a large number of respondents concerning the effect of such measures. In contrast, a lower percentage of respondents (34 per cent) were unwilling to answer Question 15, although the wording of the question did not refer as directly to the question above, i.e., "Is there any evidence that either informing the community or student concern has resulted in any change in book losses or in library policy?" The word "evidence" might have triggered off this larger response, but there is some indication to the contrary in the fact that only one of the over 250 questionnaires on which this question was examined closely presented concrete statistical evidence of the reduction in loss.[1] It is the writer's opinion that the larger and more negative response to Question 15 reflects considerably less uncertainty and a much greater willingness to say "No, we have no evidence. . . . No, we do not see or believe these measures affect loss."

Our conclusions from this comparison of the responses to the two questions asking for evidence of the effect on loss

---

[1]We found in Chapter IV that a much smaller sample (76) of questionnaires examined for Question 12 yielded ten responses with statistical evidence. Because only 18 responses to Question 15A were found in this sample, the writer selected a larger sample of 250 questionnaires for examination, which contained loss figures judged to be useful and accurate for comparison. No cross tab was run between Questions 12A and 15A, but the brief perusal of the responses to Question 12A as well as Question 15A on the 250 questionnaires showed that a high percentage of respondents answered one or the other, not both.

of regular control measures and the awakening of student concern, are as follows. The lack of evidence of the effect of either does not necessarily mean that such evidence does not exist. Efforts may simply not have been made to collect it. It is also true that we have little direct evidence that either type of control measure is not effective in reducing loss. All we can definitely state from the responses to these questions is that librarians tend to be more certain that evidence is not at hand concerning the effect of student concern than for control devices. We may also say that the librarians who do feel there is evidence for the effectiveness of control devices and disciplinary measures state their opinions more strongly, and present more actual statistical evidence for this effectiveness. Since we did not ask for dates for the attempts to inform the community or the evidence of student concern, we have no direct evidence of loss figures before and after them, such as we will discuss for control measures in the next chapter. Without such evidence, the writer's conclusion is only an opinion. However, she believes that the poor student response to the library's efforts to awaken student concern, combined with the more negative response concerning the existence of evidence of its effectiveness, probably bodes ill for future or more large scale attempts along this line. On the other hand, the figures before and after the installation of

control devices present positive evidence of their effectiveness. The writer believes therefore that libraries' major efforts at combating the loss problem will be more profitable if made in the area of control devices rather than attempts to inform the community of the loss problem.

The negative response to Question 15 indicating little evidence for the effect of informing the community or student concern on loss was very disappointing to the writer, and she drew the above conclusions reluctantly. She had theorized, when the study was in its initial stages, that a successful appeal to the community, arousing a strong degree of concern among a substantial portion of the student body, would be by far the most effective measure for controlling loss.[1] She held that external control measures such as exit controls or strategically placed charging desks, while being a deterrent to some students, would not stop really determined thieves, almost all of whom possessed enough ingenuity to circumvent

---

[1]A number of other librarians interested in the loss problem and contributing articles on it in the literature, support this conclusion. Two of these librarians, basing their opinions, although not directly, on the sound framework of a good knowledge of the extent of loss at their libraries for several previous years, are Matt Roberts, whose article "Guards, Turnstiles, Electronic Devices, and the Illusion of Security," in College and Research Libraries (July, 1968), pp. 259-275, will be discussed in Chapter VI and Perry Morrison writing on a "Lost Book Campaign at Sacramento" in the Wilson Library Bulletin, XL (February, 1966), 526-529.

these measures. Therefore, she felt such measures were not really the most effective ones in controlling loss. Internalized control mechanisms, a sense of honesty, loyalty to the school, knowledge that the unavailability of the stolen volume would be likely to harm one's fellow students, even unwillingness to risk the shame of being caught appeared to the writer to be far more effective deterrents to theft and ones that could be instilled by active efforts on the library's or school's part. The writer has not abandoned the opinion that these internal controls are more effective, but it is evident that the instilling or nurturing of these values is a far more difficult task than schools have been able to perform successfully. The questions in this section of the questionnaire did not speak directly to the point of helping students internalize values which would function as control mechanisms. Except perhaps in schools with strong religious affiliations, the instilling of values is generally not considered a basic function of the library. But library efforts in advising the academic community of the loss problem, in order to engage the aid of faculty and administrative personnel in stimulating the students' consciences as well as to appeal directly to the students' values through signs and campaigns, is certainly the first step in rallying internalized control mechanisms to the fight against book theft. We have seen that despite the

involvement of a substantial number of respondents in the initial skirmishes of this major engagement, success on the primary front, i.e., the awakening of student concern and conscience, has been notably poor. We have also seen that there is little evidence that these efforts, even when they have been successful in awakening concern, have effected a change in loss.

From the discussion on internal control mechanisms, let us turn to the responses to Question 16, designed to elicit a general statement concerning the whole range of devices and policies designed to cope with book losses. The response in Table 38 shows that two-thirds of the responding libraries' policies and procedures have remained about the same over the past decade, although over one-quarter feel that the problem is severe enough that more restrictive action was necessary. Three respondents in our sample of 76 closely examined questionnaires chose to elaborate on their response with comments in the margins; one mentioned exit guards, one a check point for outgoing traffic, and the third a restrictive shelf for books most often stolen. It is interesting to note that despite the relatively strong feeling of the study's respondents concerning the seriousness of the loss problem and the extent of the problem indicated by the loss figures themselves, two-thirds of the librarians answering this question have not

TABLE 38

CHANGES IN POLICIES AND PROCEDURES

All in all would you say that your library's policies and procedures in regard to book losses have become more or less restrictive or remained about the same over the past decade?

	Number of Responses	Percentage of Responses
Policies and procedures have become less restrictive	54	5.8
Policies and procedures have become more restrictive	258	27.8
Policies and procedures have remained about the same	615	66.3

Total responses 927

Blank 37

increased the restrictiveness of their procedures or policies. Part of this response is certainly due to the feeling expressed by the librarian quoted in the discussion of Question 15A who refused to change the library's policy, "not wishing to penalize the many because of a few."

One of the most promising methods of reducing loss and also mutilation which has been developed in recent years is the photocopying machine. Table 39 shows an impressive 55 per cent of the respondents who state strongly, in an unstructured response, their opinion that loss can be reduced by the availability of photocopiers. One hundred twenty-three of these respondents specified an expected reduction in mutilation as well as loss. An additional 22 per cent of the question's respondents were more cautious in statements that photocopiers might possibly reduce loss. Only 11 per cent stated a positive opinion that they would not reduce loss or mutilation.

Progressing to Question 19, we discover in Table 40 that when the data were gathered in late 1965 and early 1966, half of the libraries responding to the study had a photocopier in the library. One-quarter of these libraries had two or more machines. Taking this response as background to the previous question, we see that it is likely about half of the librarians who ventured an opinion on the effect of this equipment had experience with it in their libraries. In addition, the response

TABLE 39

EFFECT OF PHOTOCOPYING EQUIPMENT ON LOSS

Some librarians think that book loss (and book mutilation) can be reduced by making copying equipment available to library users. Briefly, what is your opinion on this question?

	Number of Responses	Percentage of Responses
Yes or agree or believe the statement to be true.	328	39.5
Yes and specify that photocopying equipment has reduced or will reduce mutilation of books, periodicals, or reference materials	123	14.8
Admit the possibility of photocopying equipment reducing loss or mutilation	186	22.4
Do not think photocopying equipment will or does reduce loss or mutilation.	92	11.1
Think there is not enough evidence for a considered opinion . .	76	9.2
Other	25	3.0

Total responses 830

Blank 134

TABLE 40

PHOTOCOPYING EQUIPMENT IN LIBRARY

Photocopying Equipment in Library	Number of Responses	Percentage of Responses
Yes	485	50.3
No.	479	49.7
Number of responses	964	
Blanks.		

If Yes, Number of Machines	Number of Responses	Percentage of Responses
One.	362	74.6
Two.	89	18.4
Three.	31	6.4
Four	0	0.0
Five or more	3	0.6
Number of responses	485	
Blanks.	479	

to Question 22[1] in Table 41 reveals that a little less than half of the librarians who did not have a photocopier in their library had access to one elsewhere on campus that would copy books and journals. We also find that 45 per cent of these librarians indicated that it was very likely that their libraries would acquire photocopy equipment within the next few years. Only 134 librarians considered the acquisition of such equipment within a few years unlikely; since this figure comprises only 14 per cent of the study's total respondents, we may postulate that the percentage of libraries having this equipment today is very high. If the respondents' optimism concerning its value in reducing losses was justified, the loss rate today should be substantially lower than it would be without the availability of photocopiers.[2]

---

[1]The responses to Questions 20 and 21, as well as to the second part of Question 19 are not directly related to this study and will not be discussed in it. These questions were included in the questionnaire as part of another study, the grant for which financed the mailing of the questionnaires.

[2]The cross tabulation between loss and the presence of photocopiers in the library is shown in Table 96 in Appendix B. We find the not unexpected result that libraries with higher loss tend to have photocopiers. Since we discovered the correlation coefficient between loss and total expenditures to be quite high, we can reason that it is the libraries with large budgets as well as large losses who would have been among the first libraries to have photocopiers five years ago.

TABLE 41

NOT HAVING PHOTOCOPYING EQUIPMENT IN LIBRARY

Photocopying Equipment Elsewhere on Campus	Number of Responses	Percentage of Responses
Yes.	217	46.2
No	253	53.8
Number of responses	470	
Blanks.	494	

Likely to Acquire Photocopying Equipment Within the Next Few Years	Number of Responses	Percentage of Responses
Very likely.	215	45.6
About a 50-50 chance	122	25.9
Quite unlikely	134	28.5
Number of responses	471	
Blanks.	493	

The final question to be discussed in this chapter concerns the open or closed status of the book stacks at the respondents' school. Greatly restricting access to the stacks has always been considered one of the best means of controlling loss. We hoped to use the responses to Question 25 as we would the indication of another control device and perhaps discover a strong statistical relationship between stack access and loss. Unfortunately the cross tabulations between the loss figures and the availability of the stacks to each of the three categories of borrowers, faculty, graduates and undergraduates, were not statistically significant. And the attempt to transform the responses in this question into dummy variables for the regression analyses was not successful because at the great majority of schools which provided loss figures, the stacks were partially or entirely open to undergraduates as well as faculty and graduates. Only a very few schools reported their stacks closed to undergraduates. The question as it originally appeared contained five categories of borrowers for each of the three degrees of stack availability. However, the question confused a number of respondents who chose both the "some" and "all" categories for one type of access. And many of the other responses indicated that the two categories for "some graduate students" and "some undergraduate students" were not really meaningful, that is, not

many librarians chose to divide the type of access they allow to one category of borrower. So in order to simplify the coding and cross tabulations, the "some" categories were eliminated. Table 42 shows the distribution of responses as they were revised.[1] Although the responses cannot be used for the purpose for which they were gathered, it is interesting to take a brief look at them. We see that the entire stacks are open to faculty at almost one-third of the schools, while the other two-thirds allow them access to all volumes except rare books and special materials. Only 7 schools closed their stacks to faculty. Only a little more than 20 per cent of the schools with graduate students allow them access to the entire stacks, and we find ten schools (only 1.9 per cent) reporting their stacks closed to these students. We note with interest that the percentage of schools with graduate students which allow them access to the entire stacks is a little less than the percentage of schools with undergraduates which allow the undergraduates this privilege. This fact may perhaps be explained by the assumption that more of the collections which support graduate research are likely to contain special or

---

[1]The cross tabulation with total circulation, Table 97 in Appendix B, reveals that a high percentage of the libraries with closed stacks have a very high circulation and 44 or almost one-third of the libraries circulating less than 10,000 books have their entire stacks open.

TABLE 42

AVAILABILITY OF STACKS

	Faculty		Graduate Students		Undergraduate Students	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Stacks open except for rare books and special materials	617	66.6	396	76.6	653	70.8
Entire stacks open	303	32.7	111	21.5	230	24.9
Stacks closed.	7	0.8	10	1.9	39	4.2
Number of responses	927		517		922	
Blanks.	37		447		42	

other materials which the librarian feels should be restricted. The most important figure in the table is the 39 responses of stacks closed to undergraduates. It represents a surprisingly low 4 per cent of the respondents to this part of the question and accounts for some of the difficulty in establishing meaningful relations between stack access and the loss figures. On the other hand, since so few schools have strictly controlled stacks, it can hardly be considered an important control measure in the present total picture of academic library losses.

CHAPTER VI

LOSS FIGURES

Turning from the sections of the questionnaire which were designed to test librarians' opinions concerning the loss problems and methods of control we shall discuss the middle section, Questions 4 through 8, from which we obtain a quantitative measurement of the extent of the problem. These questions were designed to obtain as accurate and complete loss figures as the respondents had available. The researcher anticipated, and the pre-test confirmed, that only a small percentage of the respondents had figures obtained through regular annual inventories of the library's entire collection taken over the past 15 years. If these figures were available, we wanted the respondents to include them, on the chance that we could observe, from even this limited number of figures, a trend toward an absolute increase or decrease in the amount of lost volumes each year over this period. We saw also the possibility of obtaining figures before and after the installations of control devices in some libraries and a correlation between the latter and a change in loss. If libraries did not

have such a complete set of data, however, we wished to obtain whatever figures they did have that might be useful to the study, even just an estimate of their loss.

In order to separate those figures based on some kind of record from those which were more or less based on the subjective impressions of the respondent, Question 4 was designed to lead the former into indicating the procedures by which the records were gathered and the latter past the section devoted to concrete data, to Question 7. It also provided us with the statement (see Table 43) that 43 per cent of the respondents indicated their library did not have a regular procedure for obtaining data concerning a problem that such a large majority of the study's respondents considered serious or at least somewhat serious. This is a fairly high response and it is probably caused by a lack of the staff and funds necessary to implement such procedures or unwillingness to divert limited funds from the development of the collection or readers' services to what may be seen primarily as a housekeeping chore. In a few cases, where the sensibilities of the librarian are especially offended by the idea of book theft, it may be due at least partially to the desire, conscious or unconscious, not to know the extent of the problem.

Five hundred eighteen of the questionnaire's respondents were routed to Question 5. In Table 44 we find that 189

TABLE 43

REGULAR PROCEDURE FOR ASCERTAINING LOSSES

Do you now have a regular procedure for ascertaining how many books are lost from your library?

	Number of Responses	Percentage of Responses
Yes	520	56.6
No.	398	43.4

Total responses 918

Blank 46

TABLE 44

METHOD USED TO COLLECT DATA

	Number of Responses[a]	Percentage of Responses
What methods do you use to collect this data?		
Annual inventory of your entire collection.	189	36.5
Annual inventory of part of your collection	48	9.3
Periodic (but not annual) inventory of your entire collection.	105	20.3
Periodic (but not annual) inventory of part of your collection.	18	3.5
Occasional (but not regular) inventory of your entire collection.	34	6.6
Occasional (but not regular) inventory of part of your collection	16	3.1
Estimate.	2	.4
Other.	9	1.7
Methods number 1 or 2 and 3-8	63	12.2
Other combinations of methods	34	6.6
Number of responses	518	
Blanks.	446	

[a]The total number of responses in the first 8 categories, not eliminating those used in combination with other methods is as follows: 1, 223; 2, 81; 3, 143; 4, 37; 5, 52; 6, 49; 7, 15; 8, 29.

librarians noted that they take an annual inventory of their entire collection, 48, of a part of their collection, and another 63 use one of these two methods in combination with others. The total response[1] of 223 libraries taking annual inventories of their entire collection (as either their only method of determining loss or using it with other methods) represents a surprising 23 per cent of the study's respondents. An additional 15 per cent of the study's respondents indicated that they take a periodic, but not an annual inventory of their entire collection.

Five cross tabulations were run with school characteristics. Table 45 shows the results of the one run with institutional type. We find that a high per cent of the schools taking annual inventories of their entire collections are junior colleges and a very high per cent of the 10 technical institutes or semi-professional schools take annual inventories of their entire collection, or use this method in combination with others. Universities reported a high percentage of occasional inventories, and liberal arts schools, though in general following the total percentage closely, reported a high percentage of periodic inventories of their entire collections, and a lower percentage of annual ones of their entire collections.

---

[1]The total responses, without the elimination of methods used in combination with others, is at the bottom of the table.

TABLE 45

METHODS USED TO COLLECT DATA: TYPE OF INSTITUTIONS

Methods Used to Collect Data	Type of Institutions: Liberal Arts	University	Junior College	Teachers College	TEC, THEO, FA, OTH[a]	TI, SP[b]	Row Totals
Annual inventory of entire collection 1	57 (30.2%) (26.6%)	2 (1.1%) (14.3%)	88 (46.6%) (52.1%)	9 (4.8%) (23.1%)	27 (14.3%) (37.5%)	6 (3.2%) (60.0%)	189 (36.5%)
Annual inventory of part of collection 2	25 (52.1%) (11.7%)	1 (2.1%) (7.1%)	9 (18.8%) (5.3%)	8 (16.7%) (20.5%)	5 (10.4%) (6.9%)	0 (0.0%) (0.0%)	48 (9.3%)
Periodic (not annual) inventory of entire collection. . 3	57 (54.3%) (26.6%)	2 (1.9%) (14.3%)	26 (24.8%) (15.4%)	7 (6.7%) (17.9%)	12 (11.4%) (16.7%)	1 (1.0%) (10.0%)	105 (20.3%)
Periodic (not annual) inventory of part of collection . 4	10 (55.6%) (4.7%)	0 (0.0%) (0.0%)	3 (16.7%) (1.8%)	3 (16.7%) (7.7%)	2 (11.1%) (2.8%)	0 (0.0%) (0.0%)	18 (3.5%)
Occasional (not regular) inventory of entire collection 5	12 (35.3%) (5.6%)	3 (8.8%) (21.4%)	6 (17.6%) (3.6%)	2 (5.9%) (5.1%)	11 (32.4%) (15.3%)	0 (0.0%) (0.0%)	34 (6.6%)
Occasional (not regular) inventory of part of collection 6	6 (37.5%) (2.8%)	3 (18.8%) (21.4%)	4 (25.0%) (2.4%)	3 (18.8%) (7.7%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	16 (3.1%)
Estimate 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (50.0%) (0.6%)	0 (0.0%) (0.0%)	1 (50.0%) (1.4%)	0 (0.0%) (0.0%)	2 (0.4%)
Other. 8	4 (44.4%) (1.9%)	1 (11.1%) (7.1%)	3 (33.3%) (1.8%)	0 (0.0%) (0.0%)	1 (11.1%) (1.4%)	0 (0.0%) (0.0%)	9 (1.7%)
Methods number 1 or 2 and 3 - 8. 9	27 (42.9%) (12.6%)	1 (2.9%) (7.1%)	23 (36.5%) (13.6%)	3 (4.8%) (7.7%)	7 (11.1%) (9.7%)	2 (3.2%) (20.0%)	63 (12.2%)
Other combinations of methods. 10	16 (47.1%) (7.5%)	1 (2.9%) (7.1%)	6 (17.6%) (3.6%)	4 (11.8%) (10.3%)	6 (17.6%) (8.3%)	1 (2.9%) (10.0%)	34 (6.6%)
Column totals.	214 (41.3%)	14 (2.7%)	169 (32.6%)	39 (7.5%)	72 (13.9%)	10 (1.9%)	

Number of responses 518
X^2. . . . . 79.599
df. 45

[a]Technical, Theological or Religious, Fine Arts, and other Professional Schools.

[b]Technical Institutes and Semi-Professional Schools.

Table 46 shows the cross tabulations with number of volumes. As we would logically expect, institutions with smaller collections (below 20,100 volumes) report a higher percentage of annual inventories of their entire collections; those with over 20,100 volumes report higher percentages of annual inventories of part of their collection with one exception, also of periodic inventories of their entire collections.

The results of the cross tabulations with total operating expenditures (Table 47) are similar to those in Table 46. A higher percentage of schools with relatively low operating expenditures (under $20,100) take annual inventories of their entire collection, and a higher percentage of those with high operating budgets, above $60,100, take annual inventories of part of their collections. Periodic inventories of part of the collection tend to be used by the libraries with higher budgets, as do combinations of methods excluding annual inventories. While at first it may seem to be somewhat surprising that schools with lower budgets take more frequent or complete inventories, the close correlation[1] between size of the collection and operating expenditures provides us with a logical explanation of these results, that is, schools with

---

[1]See the correlation matrix later in the chapter, Table 62; the coefficient is 0.73.

TABLE 46

METHODS USED TO COLLECT DATA: NUMBER OF VOLUMES

Methods Used To Collect Data	Number of Volumes[a] Less than 10,0..	10,1.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. - 999,9..	Row Totals
Annual inventory of entire collection 1	44 (23.3%) (53.7%)	57 (30.2%) (53.8%)	41 (21.7%) (38.0%)	23 (12.2%) (26.7%)	10 (5.3%) (21.3%)	14 (7.4%) (15.9%)	189 (36.6%)
Annual inventory of part of collection. 2	2 (4.2%) (2.4%)	3 (6.3%) (2.8%)	14 (29.2%) (13.0%)	9 (18.8%) (10.5%)	7 (14.6%) (14.9%)	13 (27.1%) (14.8%)	48 (9.3%)
Periodic (not annual) inventory of entire collection. 3	14 (13.3%) (17.1%)	14 (13.3%) (13.2%)	26 (24.8%) (24.1%)	21 (20.0%) (24.4%)	9 (8.6%) (19.1%)	21 (20.0%) (23.9%)	105 (20.3%)
Periodic (not annual) inventory of part of collection 4	0 (0.0%) (0.0%)	2 (11.1%) (1.9%)	4 (22.2%) (3.7%)	5 (27.8%) (5.8%)	4 (22.2%) (8.5%)	3 (16.7%) (3.4%)	18 (3.5%)
Occasional (not regular) inventory of entire collection 5	2 (5.9%) (2.4%)	10 (29.4%) (9.4%)	7 (20.6%) (6.5%)	6 (17.6%) (7.0%)	4 (11.8%) (8.5%)	5 (14.7%) (5.7%)	34 (6.6%)
Occasional (not regular) inventory of part of collection 6	2 (12.5%) (2.4%)	2 (12.5%) (1.9%)	1 (6.3%) (0.9%)	4 (25.0%) (4.7%)	4 (25.0%) (8.5%)	3 (18.8%) (3.4%)	16 (3.1%)
Estimate 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (50.0%) (1.2%)	0 (0.0%) (0.0%)	1 (50.0%) (1.1%)	2 (0.4%)
Other. 8	1 (11.1%) (1.2%)	2 (22.2%) (1.9%)	1 (11.1%) (0.9%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	5 (55.6%) (5.7%)	9 (1.7%)
Methods number 1 or 2 and 3 - 8. 9	12 (19.4%) (14.6%)	13 (21.0%) (12.3%)	9 (14.5%) (8.3%)	11 (17.7%) (12.8%)	5 (8.1%) (10.6%)	12 (19.4%) (13.6%)	62 (12.0%)
Any other combinations of methods. 10	5 (14.7%) (6.1%)	3 (8.8%) (2.8%)	5 (14.7%) (4.6%)	6 (17.6%) (7.0%)	4 (11.8%) (8.5%)	11 (32.4%) (12.5%)	34 (6.6%)
Column totals.	82 (15.9%)	106 (20.5%)	108 (20.9%)	86 (16.6%)	47 (9.1%)	88 (17.0%)	

Number of responses 517
X^2. . . . . 117.678
df. 45

[a]Last two digits dropped in coding, so figures are in hundreds of volumes.

TABLE 47

METHODS TO COLLECT DATA: TOTAL OPERATING EXPENDITURES

Control Devices	Total Operating Expenditures in Dollars[a] Less than 9,9..	10,0.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. - 999,9..	Row Totals
Annual inventory of entire collection 1	29 (15.4%) (51.8%)	44 (23.4%) (51.8%)	44 (23.4%) (35.5%)	35 (18.6%) (35.7%)	16 (8.5%) (29.6%)	20 (10.6%) (20.4%)	188 (36.5%)
Annual inventory of part of collection. 2	2 (4.2%) (3.6%)	5 (10.4%) (5.9%)	11 (22.9%) (8.9%)	7 (14.6%) (7.1%)	8 (16.7%) (14.8%)	15 (31.3%) (15.3%)	48 (9.3%)
Periodic (not annual) inventory of entire collection. 3	6 (5.8%) (10.7%)	16 (15.4%) (18.8%)	29 (27.9%) (23.4%)	24 (23.1%) (24.5%)	7 (6.7%) (13.0%)	22 (21.2%) (22.4%)	104 (20.2%)
Periodic (not annual) inventory of part of collection 4	0 (0.0%) (0.0%)	1 (5.6%) (1.2%)	4 (22.2%) (3.2%)	5 (27.8%) (5.1%)	3 (16.7%) (5.6%)	5 (27.8%) (5.1%)	18 (3.5%)
Occasional (not regular) inventory of entire collection 5	6 (17.6%) (10.7%)	2 (5.9%) (2.4%)	13 (38.2%) (10.5%)	6 (17.6%) (6.1%)	1 (2.9%) (1.9%)	6 (17.6%) (6.1%)	34 (6.6%)
Occasional (not regular) inventory of part of collection 6	0 (0.0%) (0.0%)	2 (13.3%) (2.4%)	2 (13.3%) (1.6%)	3 (20.0%) (3.1%)	6 (40.0%) (11.1%)	2 (13.3%) (2.0%)	15 (2.9%)
Estimate 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (50.0%) (0.8%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (50.0%) (1.0%)	2 (0.4%)
Other. 8	2 (22.2%) (3.6%)	1 (11.1%) (1.2%)	1 (11.1%) (0.8%)	0 (0.0%) (0.0%)	1 (11.1%) (1.9%)	4 (44.4%) (4.1%)	9 (1.7%)
Combinations of methods 1 or 2 and 3 - 8 9	9 (14.3%) (16.1%)	11 (17.5%) (12.9%)	13 (20.6%) (10.5%)	13 (20.6%) (13.3%)	5 (7.9%) (9.3%)	12 (19.0%) (12.2%)	63 (12.2%)
Any other combinations of methods. 10	2 (5.9%) (3.6%)	3 (8.8%) (3.5%)	6 (17.6%) (4.8%)	5 (14.7%) (5.1%)	7 (20.6%) (13.0%)	11 (32.4%) (11.2%)	34 (6.6%)
Column totals.	56 (10.9%)	85 (16.5%)	124 (24.1%)	98 (19.0%)	54 (10.5%)	98 (19.0%)	

Number of responses	515
X^2.	99.249
df.	45

[a]Last two digits dropped in coding, so figures are in hundreds of dollars.

lower budgets also tend to have smaller numbers of books to inventory.

One final cross tabulation is very noteworthy, primarily because it does not show percentages substantially different from the expected ones. According to the results of Table 48 inventory method does not influence the amount of loss reported by the inventory. With the background of the previous tables, however, we would expect that libraries taking annual inventories would experience lower loss, since they tend to have smaller collections, than those relying on other methods, and we may surmise that to some extent the frequent complete inventory methods identify more losses than the other methods.

The combined results of Questions 4 and 5 lead us to the statement, that while over 40 per cent of the study's respondents do not have a regular procedure for measuring their loss, 38 per cent claim to take a periodic or annual inventory of their entire collection. We would expect these 366 schools at least to be able to provide reasonably accurate data concerning their losses obtained from these inventories.

Before beginning our discussion of the loss figures themselves and the number of libraries which supplied inventory or estimated figures, we will skip to the results of Question 8, which requested an opinion from the respondent concerning

TABLE 48

METHODS USED TO COLLECT DATA: ACTUAL LOSSES

Methods Used to Collect Data	Actual Losses 1 - 9	10 - 49	50 - 99	100 - 149	150 - 199
Annual inventory of entire collection. 1	7 (5.7%) (77.8%)	25 (20.3%) (67.6%)	20 (16.3%) (80.0%)	17 (13.8%) (68.0%)	10 (8.1%) (76.9%)
Annual inventory of part of collection 2	0 (0.0%) (0.0%)	1 (11.1%) (2.7%)	0 (0.0%) (0.0%)	3 (33.3%) (12.0%)	1 (11.1%) (7.7%)
Periodic (not annual) inventory of entire collection 3	0 (0.0%) (0.0%)	4 (28.6%) (10.8%)	1 (7.1%) (4.0%)	3 (21.4%) (12.0%)	1 (7.1%) (7.7%)
Periodic (not annual) inventory of part of collection. 4	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Occasional (not regular) inventory of entire collection. . . . 5	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (100.0%) (4.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Occasional (not regular) inventory of part of collection . . . 6	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Estimate 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Other. 8	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Methods number 1 or 2 and 3 - 8. 9	2 (10.5%) (22.2%)	7 (36.8%) (18.9%)	3 (15.8%) (12.0%)	2 (10.5%) (8.0%)	1 (5.3%) (7.7%)
Other combinations of methods. .10	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)
Column totals.	9 (5.4%)	37 (22.2%)	25 (15.0%)	13 (15.0%)	19 (7.8%)

TABLE 48 - CONTINUED

Methods Used to Collect Data	Actual Losses 200 - 299	300 - 399	400 - 9,999	Row Totals
Annual inventory of entire collection. 1	13 (10.6%) (68.4%)	11 (8.9%) (78.6%)	20 (16.3%) (80.0%)	123 (73.7%)
Annual inventory of part of collection 2	1 (11.1%) (5.3%)	1 (11.1%) (7.1%)	2 (22.2%) (8.0%)	9 (5.4%)
Periodic (not annual) inventory of entire collection 3	2 (14.3%) (10.5%)	1 (7.1%) (7.1%)	2 (14.3%) (8.0%)	14 (8.4%)
Periodic (not annual) inventory of part of collection. 4	1 (100.0%) (5.3%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (0.6%)
Occasional (not regular) inventory of entire collection. . . . 5	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	1 (0.6%)
Occasional (not regular) inventory of part of collection . . . 6	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Estimate 7	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Other. 8	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Methods number 1 or 2 and 3 - 8. 9	2 (10.5%) (10.5%)	1 (5.3%) (7.1%)	1 (5.3%) (4.0%)	19 (11.4%)
Other combinations of methods. .10	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%)
Column totals.	19 (11.4%)	14 (8.4%)	25 (15.0%)	

Number of responses 167
X^2. . . . . 13.609
df. 35
Not significant at 5 % level

change in their loss rate from 1950-1965. The question was worded with the single phrase "book losses in your library" for a period of time and it was designed to obtain information about the changes, if any, in gross number of loss, not adjusted for changes in circulation or number of students. The question did not specify the gross figure however and some of the respondents apparently were unsure about the phrase "book loss." A few of them qualified their response by noting that their answer took into account change in circulation or student body, and others noted that their response did not take such factors into account. The respondents' confusion makes the results in Table 49 unreliable to an unknown extent, so we will not put much emphasis on them beyond noting that no more than about 40 per cent of the respondents indicated their losses were increasing. From 1959/60 to 1964/65 alone, the number of students enrolled in academic institutions in the United States increased about 56 per cent[1] and although this study has not found the relation between students, circulation, and loss to be very high,[2] such a tremendous increase in the first factor brings some increase

---

[1]The table with information from the U.S. Office of Education, Library Statistics of Colleges and Universities 1951/1960-1965/1966 Institutional Data, printed in Bowker Annual 1970, pp. 14-15 indicates the number of students in 1959/1960 was 3,402,000, increasing in 1964/1965 to 5,300,000.

[2]See correlation matrix later in the chapter, Table 62.

TABLE 49

CHANGE IN LOSSES

Would you say that during the period 1950 to 1965 book losses in your library have been increasing, decreasing, fluctuating or staying about the same?

	Number of Responses	Percentage of Responses
Increasing	360	39.5
Decreasing	69	7.6
Fluctuating.	124	13.6
Staying about the same . . .	220	24.1
Don't know	138	15.1

Total responses 911

Blank 53

in the second and presumably the third. We find the 40 per cent response of increasing loss lower than we expected therefore and surmise that perhaps a substantial portion of the respondents mentally adjusted their figures for increase in students and/or circulation. Almost one quarter indicated their losses were staying about the same, while 13 per cent found them fluctuating. Only 7 per cent thought they were decreasing. Later in the chapter we will discuss the results of the examination of the actual figures regarding the change in loss rate adjusted for circulation.

We now are free to devote the remainder of the chapter to what can be considered the most important data gathered by the study, the quantitative measure of the loss problem revealed by the figures on loss themselves and their relation to the characteristics of the library in which they were gathered. We noted above that 366 schools indicated an annual or periodic inventory of their entire collection was taken, leading us to the conclusion that a fairly high percentage of the study's respondents did have a reasonably accurate knowledge of the losses suffered in their library. The writer's examination of the figures in Questions 6 and 7 showed that 418 (43 per cent) of the respondents provided actual loss figures in Question 6, 336 (35 per cent) gave only estimated figures in Question 7,

and 210 (22 per cent) libraries provided no data.[1]

Careful examination of the actual loss figures resulted in the grouping of them into several categories. Approximately 140 were rejected as not useful, generally because the figures were gathered from partial inventories only and the attempt to adjust the figure for a loss for the entire collection could only be based on speculation. A large group of the other rejected figures included volumes lost and paid for or simply withdrawn from the collection for other reasons. In some cases it was impossible to tell when the previous inventory was taken, so the rate of loss for a specific time could not be ascertained. A few libraries did not supply circulation figures, and in general their loss figures were not used. Seventy-eight libraries supplied figures gathered by inventories taken more than one year after the previous inventory; these were separated into a special group to determine how much their rate of loss/circulation dropped as the length of time since previous inventory increased. Six libraries supplied data on the number of lost volumes returned after the lapse of specified periods of time. One hundred sixty-nine schools supplied figures, gathered by annual inventories of the

---

[1]Of the 520 respondents in Question 4 who said they had a regular procedure for ascertaining loss, a number noted that the figures were unavailable or they were able to provide only estimates.

library's entire collection in 1963/64 or 1964/65, taken one year after the previous inventory,[1] and as far as could be determined were accurate and comparable to the other 168. An additional 30 libraries supplied annual figures which the researcher judged in some way to be less accurate or comparable,[2] but still useful for the study of the circulation/loss ratio.

Only 25 schools provided comparable loss figures before and after the installation of control devices. Twenty-four of these observations came from the group of 169 libraries supplying the annual loss figures which are designated in the rest of the report as "actual loss figures." Of all the figures gathered in the study, the 169 "actual" figures are by far the most significant. They were used in 21 cross tabulations with the responses to questions on the questionnaire and two, with school characteristics.[3] One hundred fifty-six of them provided the

---

[1]Length of time since the previous inventory is important in obtaining comparable data because of the substantial percentage of lost volumes which are returned after the lapse of time.

[2]In some cases the librarian specified that volumes were listed as missing for several years before being declared lost. In others, the figures were not taken from full inventories, although a very large percentage of the collection had been inventoried.

[3]One cross tabulation with significant data has not been previously discussed. We see in Table 98 in Appendix B that a high percentage of schools in the category, technical,

dependent variable for the regression analysis in which we attempted to relate selected variables to loss. Correlation coefficients were calculated between these figures and the numeric school characteristics, which we shall discuss in detail later in this chapter.

The distribution of the 169 loss figures is shown in Table 50. We find that over 40 per cent of the figures are below 100 losses per year, while 25 schools reported losses over 400. The mean is 230, the median, above and below which 50 per cent of the observations fall, is 130. If the figures are plotted graphically, the form is a J-Curve with the "tail" extending very far out in the positive direction. The cross tabulation with school type and the other data discussed in footnote 3, p. 135 tell us that a high portion of these observations comes from junior colleges and a somewhat lower

---

theological, religious, fine arts, or other professional school, experience low loss; junior colleges tend to experience losses in the low to middle ranges (from 50-149); and liberal arts schools, universities, and teachers' colleges tend to report high losses. This cross tabulation is also noteworthy because, comparing it with the data in Table 73 in Appendix B, we find that a very high percentage (46 per cent) of the 169 loss figures were supplied by junior colleges (25 per cent of the study's respondents are junior colleges). Thirty-four per cent come from liberal arts schools (44 per cent of the study's respondents are in this category), 1.2 per cent, from universities (2.4 per cent for respondents), 6.5 per cent from teachers' colleges (9.6 per cent for respondents), 10.1 per cent from technical, theological, fine arts, religious, or other professional school (16.3 per cent for respondents), and an exactly matching 1.8 per cent of both the loss figures and the respondents come from technical institutes or semi-professional schools.

TABLE 50

ACTUAL LOSS FIGURES

Category	Number of Responses	Percentage of Responses
1 - 9	9	5.3
10 - 49	37	21.9
50 - 99	25	14.8
100 - 149	26	15.4
150 - 199	13	7.7
200 - 299	20	11.8
300 - 399	14	8.3
400 - 3,000	25	14.8

Number of respondents 169

Blanks 0

Mean..... 230

Median.... 130

portion (than both the distribution of respondents to the study and the population as a whole) comes from liberal arts and teachers' colleges. The number of losses for junior colleges tends to fall in the low to middle loss range and for teachers' colleges and universities, in the high range; we surmise on the basis of this single characteristic that the 169 figures fall into the middle-to-somewhat-low range of losses experienced by the population in general. We have a much better idea of the differences in school characteristics between respondents, population, and group reporting the 156 observations (taken from these 169 figures[1]) used in the regression analysis. We shall speculate more on differences in loss between these 156 schools and these two other groups later in the chapter.

A considerably larger number of respondents provided estimated loss figures, either as the only figure they reported, or occasionally, in addition to figures in Question 6. Table 51 shows the distribution of these 392 observations. We note that well over half the observations (57 per cent) are below 100 losses per year, and we note that the median loss (although not calculated precisely) must also fall somewhere between 50 and 99 losses per year, considerably less than the median of 130

---

[1]The means of both the 169 figures and the 156 which form a subgroup of them are very close, 230.0 for the former, 229.9 for the latter.

TABLE 51

ESTIMATED LOSS FIGURES

Category	Number of Responses	Percentage of Responses
1 - 9	38	9.7
10 - 49	126	32.1
50 - 99	63	16.0
100 - 149	43	11.0
150 - 199	28	7.2
200 - 299	36	9.2
300 - 399	24	6.1
400 - 9,999	34	8.7

Number of respondents 392

reported in the actual observations. Two possibilities would account for the lower figures. Either these schools may actually lose fewer books or, not knowing the actual extent of their losses, they tend to estimate low. Since we have no evidence at hand to support either theory, we will not favor one or the other. The calculation of such evidence would have involved considerable additional effort due to technical problems in the data processing. Since these estimated figures are judged to be much less accurate than the actual loss figures, it was not undertaken.

Both the actual and estimated figures discussed so far provide only descriptive data concerning the number of volumes lost per year by a certain per cent of the respondents. In order to obtain data useful for comparisons and analysis, it seems logical to adjust the loss figure for some factor relating to the size of the library or school. That is, it does not seem reasonable to compare the 1,000 losses per year at school X with 4,500 students with the 10 losses per year at school Y with 100 students. The researcher believed when the study was initiated that circulation, or a flow or use of books in a library, would be the most reasonable figure to use to adjust loss for comparisons. Although the correlation coefficients of loss with other variables which we will discuss later showed other variables to be more closely related, the other relations

were not very close and the circulation figures were readily accessible alongside the loss figures, so they were used to make the adjustments for the following groups of figures.

Thirty schools provided annual loss figures which were judged to be useful although for most, the inventory methods by which they were obtained were not as rigorous as for the 169 actual figures. The mean of these 30 observations was 183, and the loss per circulation was .0087, for 1 loss for about 116 circulations.[1]

As we might expect from the less rigorous inventory methods, the mean is considerably lower than the mean of 230 for the 169 figures, and although the comparison is not exact, it may be useful to note that the loss/circulation rate is also considerably lower than the same ratio for the subgroup of 156 observations, .0087 instead of .0098 for the latter group.

Seventy-eight schools provided figures gathered from inventories taken more than 1 year after the previous inventory. Table 52 shows the loss/circulation ratios for this data. We were very interested in determining whether the ratio would

---

[1]The range of the observations is as follows: 16 observations have a loss/circulation ratio of less than .005, with the range being .0001-.0047 and the mean, .0018; 4 observations are between .005 and .010 with a mean of .0072 and the range, .0053 to .0083; 7 observations are between .011 and .020, with a mean of .015 and a range of .011 to .018; and 3 observations are above .020, with a mean of .033 and a range of .024 to .045.

TABLE 52

LOSS/CIRCULATION GATHERED BY INVENTORIES TAKEN MORE THAN ONE YEAR AFTER PREVIOUS INVENTORY

	2 Years			3 Years			4 Years		
	Responses	Range	Mean	Responses	Range	Mean	Responses	Range	Mean
< .005	14 (45%)	.0004-.0046	.0024	7 (39%)	.0018-.0048	.0029	2 (25%)	.0036-.0046	.0041
.005 - .010	8 (26%)	.0053-.0094	.0073	8 (44%)	.0054-.0100	.0090	1 (12.5%)	.0086	.0086
.011 - .020	4 (13%)	.010 - .014	.012	3 (17%)	.011 - .019	.014	4 (50%)	.012 - .018	.016
> .020	5 (16%)	.022 - .044	.029	———	———	———	1 (12.5%)	.026	.026
Total	31	.0004-.044	.009	18	.0018 - .019	.007	8	.0036 - .026	.013

	5 Years			6 Years			7 Years		
	Responses	Range	Mean	Responses	Range	Mean	Responses	Range	Mean
< .005	4 (50%)	.0006-.0048	.0022	2 (66.7%)	.0010-.0082	.0046	1 (100%)	.0027	.0027
.005 - .010	2 (25%)	.0067-.0070	.0069	1 (33.3%)	.010	.010	———	———	———
.011 - .020	2 (25%)	.013 - .019	.016	———	———	———	———	———	———
> .020	———	———	———	———	———	———	———	———	———
Total	8	.0006-.019	.007	3	.0010 - .010	.006	1		.0027

TABLE 52 - CONTINUED

	8 Years			9 Years		
	Responses	Range	Mean	Responses	Range	Mean
<.005	1 (100%)	.0015	.0015	1 (100%)	.0026	.0026
.005 - .010	———	———	———	———	———	———
.011 - .020	———	———	———	———	———	———
>.020	———	———	———	———	———	———
Total	1		.0015	1		.0026

	10 Years			11 Years		
	Responses	Range	Mean	Responses	Range	Mean
<.005	———	———	———	———	———	———
.005 - .010	2 (100%)	.0080-.0093	.0087	1 (100%)	.0097	.0097
.011 - .020	———	———	———	———	———	———
> .020	———	———	———	———	———	———
Total	2	.0080-.0093	.0087	1		.0097

TABLE 52 - CONTINUED

	13 Years			15 Years			17 Years		
	Responses	Range	Mean	Responses	Range	Mean	Responses	Range	Mean
<.005	———	———	———	1 (100%)	.0046	.0046	1 (100%)	.0032	.0032
.005 - .010	2 (100%)	.0062-.0064	.0063	———	———	———	———	———	———
.011 - .020	———	———	———	———	———	———	———	———	———
>.020	———	———	———	———	———	———	———	———	———
Total	2	.0062-.0064	.0063	1		.0046	1		.0032

decrease substantially as the time since the previous inventory increased. We see that to some extent such a pattern does emerge from Table 52. From 2 to 5 years, from 62 per cent to 17 per cent of the ratios were above .010, while no observation fell into the two high categories after the five years. However, the pattern within the two lowest categories does not follow the general assumption, and we find from 8 years on, the ratio starting at .0015, rising to .0097, and then dropping to .032 for 17 years. We must remember, though, that these latter figures by and large are based on a single observation. The average of the mean where we have several observations shows a steady drop in the total mean, with one exception, from .009 for 2 years to .006 for 6 years.

The general pattern of the table does confirm the assumption that the loss/circulation ratio drops with time, due to the return of volumes reported lost in earlier inventories. Six schools gave us figures with which to measure the phenomenon more precisely. Three of them provided an observation of volumes returned after 1 year. The first lost 82 volumes in x year of which 35 appeared in x + 1 year for a rate of return of about 43 per cent; the decrease in the loss/circulation ratio was from .002 to .0011. The second reported a loss of 2,015, of which 661 were returned, for a return about 33 per cent (loss/circulation went from .021 to .014). The third

lost 502 in x year, of which 82 or about 16 per cent were found, and the ratio dropped from .017 to .014. Thus, these three figures show a rate of return of from 43 per cent to 16 per cent of the volumes missing in x year. Two schools carried their observations to x + 2 years. The first appeared to be an estimate although it was not given as such. It reported approximately 200 losses in x year, of which about 100 were returned in x + 1 and 50 in x + 2, for a decrease of 50 per cent the first year and an additional 25 per cent the second. (Loss/circulation ratio dropped from .0002 to .0001 to .00005.) The second observation is based on actual figures from inventories and indicated 59 volumes missing in x year, 29 found in x + 1 and 6 in x + 2, for a decrease in loss/circulation ratio of .0008 to .0004 to .0003, and a recovery rate of 49 per cent the first year and 10 per cent the second, or about 60 per cent for the two years combined.

One final observation came from a school providing two sets of figures, loss in x_1, $x_1 + 1$, $x_1 + 2$, and loss in x_2 and $x_2 + 1$ years. These figures fall within the ranges of the figures discussed above. Loss for the year x_1 was 581, dropping to 445, for a reduction in loss of 24 per cent, the first year and to 382 (an additional 11 per cent) the second. The loss/circulation ratio dropped from .012 to .009 to .008 in this set of observations.

In the second set, loss was 1,073 (.02 per cent of circulation) and was reduced the following year to 712 volumes still missing. This reduction was a 34 per cent drop in the original loss figure and the loss/circulation ratio dropped to .013 per cent.

The effect of control devices on loss rate is a significant question in any discussion of the problem of theft, and Questions 6 and 9 were structured to obtain relevant data on this subject where it was available. We succeeded in gathering 25 observations with annual loss figures before and after the installations of controls. In order to measure their effect on loss, the following procedure was followed. The loss/circulation ratio was calculated and averaged for as many years of data after the installation as the respondents provided. Figures for the same number of years before the control device was adopted were also calculated.[1] The percentage of the decrease (or increase) in loss was then ascertained from the differences between the averages of the before and after loss/circulation ratios.

We see in Table 53 that despite some very diverse percentages of change in loss, the respondents reported a very

---

[1]The number of observations before and after was always the same. If the library provided two figures after and eight before, only the two figures immediately before the installation were used.

TABLE 53

PERCENTAGE OF THE CHANGE IN LOSS/CIRCULATION RATIO AFTER THE INSTALLATION OF CONTROLS

Exit guards with or without turnstile	Charging Desk with Visual Control	Honor System	Exits Away From Desk Closed (Other)
Observations Showing Decrease	Observations Showing Decrease	Observation Showing Decrease	Observation Showing Decrease
79%	95%	9%	22%
78%	79%		
69%	79%	1 Observation Average Loss Before Installation	1 Observation Average Loss Before Installation
63%	62%		
63%	50%		
54%	44%	29	659
37%			
7%	Observations Showing Increase		
7%			
	90%		
Observation Showing Increase	16%		
	15%		
5%			
Average 45% Decrease for 11 Observations	Average 30% Decrease for 9 Observations		
Average loss before Installation - 455	Average loss before Installation - 236		

Total Observations - 22

substantial average decrease in the loss/circulation ratio after controls were installed. A system with exit guards is by far the most effective. From our 11 observations when this control method was used, we obtained an average decrease in the loss/circulation ratio of 45 per cent. These respondents lost an average of 455 books per year before the control measure was installed which was almost double the rate of the total 169 actual loss figures of which these observations are a sub-group. Using this average to calculate the savings in volumes lost resulting from the control, we find that these schools lost an average of 205 books less than they would have if the controls were not used and their loss rate had remained constant. Charging desks with visual controls are shown to be less effective in reducing the loss/circulation ratio of the 9 respondents who gave us data, but they also are used in schools which had considerably fewer losses (approximately half) than those with exit guards. The average decrease in the loss/circulation ratio is 30 per cent, but the observations are very diverse, ranging from a 95 per cent decrease to a 90 per cent increase. An average of approximately 70 books remained in the library which projections indicate would have been stolen without the charging desk. Single observations were reported for the honor system and closing off exits away from the charging desk. The study provided three additional

observations not included in the table because they were not comparable with the other observations. One school experienced a 30 per cent decrease in its loss after switching from exit guards without turnstiles to a charging desk with visual control; another's loss doubled when it used an exit guard with visual control, then dropped back to the previous rate when turnstiles alone were used. A third observation came from the group of 30 annual observations considered less accurate. Always using the honor system, it reported a 70 per cent decrease after also adopting a door check system of exit guards as a secondary control method.

These figures, indicating for 15 of the 22 observations, a very substantial reduction (over 20 per cent) in the loss/circulation ratio after the installation of controls, considerably change the picture of the effectiveness of controls which was gathered from the responses to the question asking librarian's opinion of control device effectiveness. Less than one quarter of the respondents to that question reported a belief that control devices or disciplinary measure resulted in a change in loss, although the 106 librarians specifying the device which they believed had effected a change, expressed definitely positive opinions that they reduced loss. It is interesting that not only are the opinions of these latter respondents definitely confirmed by the evidence of actual

figures, but we have also found that the device which the majority of them mentioned, exit guards, effects the most significant change in loss. We will build on our knowledge of the effectiveness of control devices in our discussion of the economic possibility of loss prevention in the study's summary.

Before beginning the discussion of the variables which influence loss we will mention briefly the evidence of the loss figures which bears on the question of the over-all change, if any, on the rate of loss experienced by libraries. Disregarding the use of control devices, are losses increasing in libraries throughout the country, as many of the articles on loss in the literature seem to indicate? Adjusting loss to allow for differences in the growth rates of various libraries, we will use the loss/circulation ratio to compare the change in losses experienced by the libraries providing loss figures either on an annual basis or from inventories taken after longer periods of time. The data provided by schools giving 5 or more observations was scanned quickly to note if a trend concerning the change in the loss/circulation ratio was immediately evident. The results of this perusal indicated a general trend of fluctuation rather than increase in loss adjusted for circulation. Trends were evident in the data of 77 libraries. Forty-three (58 per cent) showed fluctuating loss, while about one-third (25 schools) indicated a trend

toward a continually higher loss/circulation ratio. The data from seven libraries showed a decrease in the ratio, and, at two, the ratio was about constant.

In order to investigate the question of what specific variables, such as school characteristics (i.e., number of students, number of volumes in the library), control devices, or other measures designed to reduce losses, are related to loss and to obtain a measure of the relationship between loss and these variables, the 169 observations designated as "actual losses," taken from the answers to Question 6, were used in a simple and multiple linear regression analysis. Of these 169 observations, only 156 could be used in the program. Of the remaining schools, 12 had not supplied data, either to the U.S. Office of Education or on the questionnaire, on all the variables to be run in the program and therefore were deleted.[1]

---

[1]The remaining observation was deleted for the following reasons: it was the only school which fell into the school category of technical institute or semi-professional school, and it reported an extremely high loss figure. These two factors combined to make this observation account for a tremendously high percentage of the variance in the loss data. For example, in the first multiple linear regression with loss/volumes as the dependent variable, the school category accounted for 37 per cent of the variance. The researcher judged that while the loss figure may have been accurate, the consistent appearance of this one variable in the analyses could prevent the introduction of more meaningful variables and thus obscure the results of the analysis.

The purpose of the linear regression analyses was to try to determine (1) which of the following variables best account for the variance in the loss figures, and (2) for how much of the variance they account. The variables used included both numeric and non-numeric data.

The numeric variables are:

1. Number of books lost during 1963-64 or 1964-65
2. Total annual circulation, in hundreds of books
3. The percentage of students living on campus
4. The number of students[1]
5. The number of volumes in the library, in hundreds of volumes
6. The number of professional personnel in full-time equivalents
7. The total annual operating expenditures, in hundreds of dollars
8. The annual expenditures for books and other library materials, in hundreds of dollars
9. The number of hours of student assistance, in tens of hours[2]

---

[1]For further explanation of the definition of this and the following terms, see the U.S. Office of Education, Library Statistics of Colleges and Universities, Institutional Data, 1963-64, pp. 2-5.

[2]The squares of the variables number 2, 4, 5, 6, 7, 8, and 9 were included as a way to allow for the detection of a

The non-numeric variables used in the analysis are:[1]

1. Whether or not there is evidence of student concern for the loss problem

2. Whether or not the library has photocopying equipment

3. Whether or not the school has a formal disciplinary policy

4. Whether or not the library attempted to inform the community about the problem of losses

5. Whether the school is a public or private institution[2]

6. What the type of the school is, i.e., liberal arts, junior college, etc.

7. What type of inventory is taken to determine loss figures

8. What type of control devices are used to alleviate losses.

---

possible non-linear relationship between the dependent and independent variables. The squared variables did not improve the statistical fit and other methods of allowing for non-linear relationships, i.e., logarithmic or exponential, were not tried.

[1]An additional non-numeric variable of this type, availability of the stacks, was not included in the regression analysis because none of the 156 schools reported their stacks closed to faculty and such a limited number reported them closed to graduates or undergraduates that a meaningful relationship did not seem likely.

[2]For further explanation of this and the following variable, see footnote 1, p. 153.

In order to be used in the regression program, the non-numeric variables had to be transformed into dummy variables (i.e., variables whose value can be only 0 or 1). In the case of the first four variables, the equivalent of a yes answer was transformed to a 1, a no answer to a 0. For the fifth variable, a public institution was given a 0, a private, a 1. For the last three variables, each type of school, inventory, or control device was taken separately and transformed into a yes or no category. For example, a school using exit guards with turnstiles as its only control device would receive a yes (i.e., 1) in the category of exit guards with turnstiles and a no (i.e., 0) in the other five categories of control devices.

For a little background concerning the distribution of these numeric and non-numeric variables, let us look at Tables 54 and 55. In considering these figures, and all the other figures calculated in the regression program, it must be remembered that they pertain not to the study as a whole, but to the 156 observations selected for analysis. Some of them appeared earlier in the discussion in Chapter II concerning the representativeness of the samples. Looking back at Tables 1-3 in Chapter II, comparing the means of selected characteristics of the total population of 1,682 libraries, the 964 respondents, and the schools which provided these 156

TABLE 54

MEANS AND STANDARD DEVIATIONS OF NUMERIC VARIABLES
USED IN LINEAR REGRESSIONS

Variable	Mean	Standard Deviation
Losses.	229.94	363.96
Total circulation in hundreds of volumes.	343.54	366.58
Percentage of students living on campus	41.09	37.05
Number of students.	1224.2	1096.6
Number of volumes in hundreds of volumes.	364.4	339.6
Hours of student assistance in tens of hours. . . .	376.0	452.0
Number of professional personnel.	2.47	1.99
Total operating expenditures in hundreds of dollars	462.4	379.5
Book expenditures	159.6	147.6
Loss/Number of volumes in hundreds of volumes . . .	0.81	0.85
Loss/Circulation in hundreds of volumes	0.98	1.69
Loss/Number of students	0.21	0.19

Number of observations 156

TABLE 55

PERCENTAGES OF NON-NUMERIC VARIABLES
USED IN LINEAR REGRESSIONS

Variable	Per Cent
Disciplinary policy	21
Attempt to inform community	69
Evidence of student concern	28
Photocopying equipment in library	52
Private (rather than public) administrative control	53
Annual inventory of entire collection	82
Annual inventory of part of collection	7
Periodic (but not annual) inventory of entire collection	10
Periodic (but not annual) inventory of part of collection	4
Occasional (but not regular) inventory of entire collection	2
Occasional (but not regular) inventory of part of collection	8
Estimate	1
Exit guards (without turnstiles)	12
Exit guards (with turnstiles)	5
Magnetic systems (magnetized plates in volumes)	-
Charging desk at entrance to provide visual control	58
Student body honor system	34
Other	12
Liberal Arts College	37
University	0.6
Junior College	45
Teachers College	7
Technical, Theological, Fine Arts, or other Professional School	10
Technical Institute or Semi-Professional School[a]	-
Number of observations 156	

[a]See footnote, Chapter VI, p. 152.

figures, we find the collection size, operating and book expenditures, and professional personnel for the latter group considerably lower than for the respondents or total population. Less of a difference exists in the size of their student bodies. In fact, we can assume the 156 schools are representative of the respondents in this characteristic, although we note that both the 156 schools and the respondents have an average of more students than the population. These differences in characteristics are confirmed a few paragraphs later by the indication that a high percentage (45 per cent) of the 156 observations come from junior colleges.[1] Assuming the knowledge, from the correlation matrix which we shall discuss later in the chapter, that loss is related (although not as closely as we expected) to professional personnel, total expenditures and students, we surmise that, given the greater differences in personnel and expenditures than in students, the loss figures provided by the 156 schools are somewhat lower than those which would have been provided by the rest of the study's respondents or the population if they had been available.

---

[1]The averages for volumes, personnel, and operating expenditures of public and private junior college libraries are lower than those of public and private other professional schools, theological schools, technical schools, teachers' colleges, universities, and liberal arts colleges, according to Tables 3A-9A in the U.S. Office of Education, Library Statistics of Colleges and Universities, 1963-64 Analytic Report by Theodore Samore (Washington: U.S. Government Printing Office, 1968), pp. 20-29.

The standard deviation of all the variables in Table 54 is very high, and they indicate that the distributions are positively skewed. Three of the most important figures in the study appear here, the means of the ratios of loss to circulation, number of volumes, and students. We find the mean of loss over circulation is very near 1 loss for every 100 circulations, and of loss over volumes, 1 loss for about every 125 volumes in the collection. We shall find in the correlation matrix later in this chapter that the relation of loss to students is closer than of loss to circulation or volumes. The mean of loss/students indicates 1 loss for approximately every 5 students.

Table 55 presents the percentages of the non-numeric variables. By and large, the percentages of variables which are responses to questions do not differ substantially from the percentages reported by the respondents as a whole. We note a very high 45 per cent of the schools reporting these actual loss figures are junior colleges, which, as we saw in footnote 3, page 135, tend to report losses in the low to middle ranges, from 50-149. The percentage of annual inventories is naturally quite high (82 per cent) because the criteria used in the selection of these figures specified the loss figures had to be obtained from a one-year inventory taken after the lapse of only one year from the previous inventory.

As a first step in the analysis, a number of simple linear regressions were run with loss as a function of some of the variables relating to the size of the school or library. It would seem almost a truism that the larger the size of the collection (as measured in number of volumes), or the "flow of books" (as measured by circulation), or the patron traffic (indicated to some extent by the number of students) the more books the library loses. In fact, using the loss figures supplied by these 156 schools, we discover, in Tables 56, 57 and 58 that these variables account for a low percentage of the variance in the loss figures (as indicated by the coefficient of determination, r^2). The best statistical fit of these three regressions is provided by loss on students, but only 25 per cent of the variance is accounted for by this variable.

On the other hand, variables whose relation to loss would seem intuitively less close account just as well for the variance in loss. Tables 59, 60, and 61 show the results of the loss figures regressed onto three such variables, number of professional personnel, total operating expenditures, and book expenditures. Comparison of these six tables reveals the somewhat startling fact that the best statistical fit of all the six simple regressions is provided, in a positive relationship, by the number of professional librarians. In this instance, the fact that the regression does <u>not</u> imply a direct

TABLE 56

SIMPLE LINEAR REGRESSION OF LOSS ONTO NUMBER OF VOLUMES

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss. . . .	229.94	363.96	. .	. .	. .
a = constant. .	. .	. .	117.38	41.14	2.853
x = volumes . .	364.4	339.6	0.3089	0.0827	3.734

$y = a + bx$

y = loss

x = number of volumes in hundreds of volumes

$r^2 = 0.0830$

Standard error of y given x = 349.65

TABLE 57

SIMPLE LINEAR REGRESSION OF LOSS ONTO CIRCULATION

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss. . . .	229.94	363.96	. .	. .	. .
a = constant. .	. .	. .	110.38	37.58	2.937
x = circulation	343.54	366.58	0.3480	0.0793	4.645

$y = a + bx$

y = loss

x = circulation in hundreds of volumes

$r^2 = 0.1229$

Standard error of y given x = 341.97

TABLE 58

SIMPLE LINEAR REGRESSION OF LOSS ONTO NUMBER OF STUDENTS

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss. . . .	229.94	363.96	. .	. .	. .
a = constant. .	. .	. .	24.77	37.88	0.6539
x = students. .	1224.2	1096.6	0.1676	0.0230	7.260

$y = a + bx$

y = loss

x = number of students

$r^2 = 0.2550$

Standard error of y given x = 315.16

TABLE 59

SIMPLE LINEAR REGRESSION OF LOSS ONTO
PROFESSIONAL PERSONNEL IN FULL-TIME EQUIVALENTS

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss	229.94	363.96	. .	. .	. .
a = constant	. .	. .	-26.316	38.42	-0.6850
x = professional personnel	2.47	1.99	103.57	12.10	8.557

$y = a + bx$

y = loss

x = professional personnel in full-time equivalents

$r^2 = 0.3222$

Standard error of y given x = 300.59

TABLE 60

SIMPLE LINEAR REGRESSION OF LOSS ONTO
TOTAL OPERATING EXPENDITURES

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss	229.94	363.96	. .	. .	. .
a = constant	. .	. .	12.230	40.226	0.3040
x = total expenditures	462.4	379.5	0.4708	0.0673	6.9924

$y = a + bx$

y = loss

x = total operating expenditures in hundreds of dollars

$r^2 = 0.2409$

Standard error of y given x = 318.11

TABLE 61

SIMPLE LINEAR REGRESSION OF LOSS ONTO BOOK EXPENDITURES

	Mean	Standard Deviation	Coefficient	Standard Error Of The Coefficient	T Value
y = loss.	229.94	363.96	. .	. .	. .
a = constant.	. .	. .	82.304	39.987	2.0583
x = book expenditures	159.6	147.6	0.9250	0.1842	5.0211

$y = a + bx$

y = loss

x = expenditures for books and other library materials in hundreds of dollars

$r^2 = 0.1407$

Standard error of y given x = 338.48

causal relationship cannot help but comfort librarians. However, it does point out that complex inter-relationships may be at work in the data and that we should take the analysis further in an attempt to discover them.

Examination of some of the correlation coefficients which measure these inter-relationships will help us to better understand the results of the multiple linear regression program where numbers of variables are allowed to enter, in sequence as they best account for the variance in the dependent variable. They are also very interesting in their own right as they provide insights concerning the variables themselves.

Indications of the relationships between selected[1] variables may be seen in the correlation matrix given in Table 62.[2] The correlation coefficients between loss and the other

---

[1]Selection of these 13 variables was based primarily on the interest value of the correlation coefficient of loss and the variable. A few of the variables were added, however, because of important or surprising correlations with specific variables other than loss. Inclusion of the coefficients of all of the 46 variables would have made the matrix rather difficult to read and is of interest probably only to a few researchers with specific questions in mind.

[2]These coefficients were calculated for the 156 loss figures used in the regression programs. Some coefficients were also calculated for the entire 169 figures used in the cross tabulations. They are quite similar to the coefficients in Table 62. For example, the correlation between loss and students is .53, loss and volumes, .30, loss and professional personnel, .50, loss and total expenditures and book expenditures, .52 and .42 respectively. The relations between loss and circulation is a little higher with the 169 figures than

TABLE 62

CORRELATION MATRIX

Variable	Variable 1[a]	2	3	4	5	6	7	8	9	10	11	12
2 student concern	.28											
3 total circulation	.35	.22										
4 students.	.50	.17	.55									
5 volumes	.29	.27	.58	.30								
6 professional personnel.	.56	.25	.53	.57	.59							
7 total expenditures.	.49	.37	.68	.62	.73	.77						
8 book expenditures	.37	.33	.63	.49	.70	.64	.90					
9 exit guards without turnstiles. .	.10	.12	.16	.17	.03	.08	.16	.16				
10 exit guards with turnstiles . . .	-.02	.05	.09	.30	.17	.09	.26	.14	-.08			
11 charging desk with visual control	-.10	-.13	-.03	-.07	. .[b]	. .[b]	.02	.06	-.16	-.21		
12 honor system.	-.15	.09	-.07	-.20	.05	-.17	-.16	-.14	-.10	-.17	-.26	
13 Teachers College.	.46	.21	.55	.37	.26	.44	.49	.50	.13	-.06	-.03	-.09

[a]Loss

[b]$-.01 < r < +.01$

variables are in the left vertical row. We find the correlations between loss and the use of the four control devices very low, as is the coefficient between loss and the evidence of student concern. As we saw in the simple linear regressions, the correlations also are low between the variables the writer considered most likely to be closely related to loss, i.e., circulation, volumes, and (though not quite so low) students. The variables most closely related to loss is the number of professional personnel, although a coefficient of .56 cannot be considered very high. We see students and total expenditures playing a close second, and a .46 figure for the relation between loss and the schools that are teachers' colleges.

The relationships between some of the other variables in the matrix are also quite interesting. We see professional personnel highly correlated with all of the other variables except student concern, the control devices, and teachers' colleges. The variables total expenditures and book expenditures show a similar pattern with generally even higher correlations all around, except with loss. Logically, the highest correlation, .90, in the matrix is between total and book expenditures. It is surprising that circulation has a higher

---

with the 156; the coefficient for the 169 figures is .45, for the 156, .35. The mean of the 169 loss figures is 230.0, and for the 156, 229.9.

correlation (although only slightly higher) with the number of volumes in the collection than with the number of students. It is perhaps even more surprising that neither correlation is particularly high. The relation between students and volumes is a very low .30. The control devices have very low correlations with all of the other variables. This fact is quite significant because we would logically expect a fairly high relationship between the more expensive control devices, i.e., exit guards, and total expenditures, students or circulation. We do find a negative correlation between the use of the honor system and their three variables, but the coefficients are very small.

Correlation coefficients not only give us some insights into the relationships between variables, they also are important because they remind us of the statistical problems associated with multicollinearity, which enters into the multiple linear regression analysis and our interpretations of it. Very briefly, multicollinearity exists when two or more of the variables are highly correlated; when this condition exists, the regression may be made unreliable to the extent that once the first of several highly correlated variables enters the regression, the other highly related ones are less likely to enter; rather, the next variables to enter the analysis are likely to be among those not highly correlated with the first. If a second regression is run deleting the first variable,

however, one of the variables highly correlated with the first (which did not appear in the first regression analysis) may enter ahead of those unrelated variables which appear in the first regression. For example, if total expenditures and book expenditures of students are highly correlated variables, the variables entering in one regression analysis might be total expenditures, then student concern, then a control device. Running a second regression with total expenditures deleted might yield variables in the following order: book expenditures, a control device, student concern.

While we are on the subject of the entrance of the variables, brief mention of the sequence of entrance is relevant. Allowing for multicollinearity, at each step in the multiple linear regression analysis, we recognize that the variable which next accounts for the greatest amount of variance in the dependent variable enters. However, it does not always enter last in the sequence of independent variables. To take a hypothetical case, in step 3, the sequence of variables may have been attempt to inform the community, exit guards with turnstiles, and private administrative control. In step 4, with the entrance of the variable, student concern, the sequence may be attempt to inform the community, private administrative control, student concern, and exit guards with turnstiles. Therefore this discussion cautions us against

placing emphasis on the sequence of the variables (especially since the multiple linear regression reported in Tables 63 through 66 are displayed with the numbers of steps ranging from 5 to 9).

One final word of caution is in order before looking at Tables 63 through 66. The coefficients are related to each other and cannot be used independently. That is, because we see in one of the analyses a positive coefficient of 111 related to a variable such as evidence of student concern, even allowing for all the other assumptions on which the analysis is based, we cannot assume that schools with evidence of concern lose 111 more books than those schools where such concern is not in evidence.

With these words of caution in mind, we will begin the discussion of the multiple linear regressions. Table 63 shows the regression with loss alone as the dependent variable. This regression analysis provides us with the best statistical fit of the four analyses which were made although even it is not particularly good. Forty-seven per cent of the variance is accounted for by the entrance of the 6 variables displayed. The standard error of y given x, 267, is still quite high. Hours of professional personnel, which in the early steps of the regression was the variable accounting for most of the variance, has dropped to second place, superceded by student

TABLE 63

MULTIPLE LINEAR REGRESSION WITH LOSS AS DEPENDENT VARIABLE

$y = a + b_1x_1 + b_2x_2 + \ldots\ldots + b_6x_6$[a] y = loss Mean of y = 229.94 Standard deviation of y = 363.96

	Coefficient	Standard Error	T Value
a = constant	-11.686	35.688	-0.3275
x_1 = evidence of student concern.	111.52	49.808	2.2391
x_2 = professional personnel in FTE.	62.866	13.497	4.6578
x_3 = exit guards with turnstiles.	-202.81	103.20	-1.9652
x_4 = institutional type: Teachers College.	376.55	105.61	3.5653
x_5 = square of the circulation in hundreds of volumes	-0.0001	0.0001	-2.7568
x_6 = square of the number of students	0.0001	0.0001	4.4080

$r^2 = 0.4794$ Standard error of y given x = 267.85

[a] Although the program ran for ten steps before it was instructed to terminate, this table displays the data through only the sixth step, or after the entrance of six variables. The appearance of the last four variables only increased the r^2 to .51, reduced the standard error of y given x to 262.50, but many of the significance levels of the coefficients as measured by the T values were reduced.

TABLE 64

MULTIPLE LINEAR REGRESSION WITH LOSS/STUDENTS AS DEPENDENT VARIABLE

$y = a + b_1x_1 + b_2x_2 + \ldots + b_6x_6$[a] y = loss/number of students Mean of y = 0.2056 Standard deviation of y = 0.199

	Coefficient	Standard Error	T Value
a = constant	0.2182	0.0381	5.7239
x_1 = formal disciplinary policy	-0.0707	0.0360	-1.9664
x_2 = attempt to inform community.	0.0679	0.0305	2.2279
x_3 = private administrative control	0.0942	0.0289	3.2585
x_4 = exit guards with turnstiles.	-0.2116	0.0671	-3.1555
x_5 = student body honor system.	-0.0925	0.0326	-2.8377

$r^2 = 0.1830$ Standard error of y given x = 0.1750

[a] Although the program ran for ten steps before it was instructed to terminate, this table displays the data through only the sixth step. The appearance of the last four variables only increased the r^2 to 0.23 and reduced the standard error of y given x to 0.1723, but many of the significance levels of the coefficients as measured by the T values were reduced.

TABLE 65

MULTIPLE LINEAR REGRESSION WITH LOSS/CIRCULATION AS DEPENDENT VARIABLE

$y = a + b_1x_1 + b_2x_2 + \ldots + b_5x_5$[a] y = loss/circulation in hundreds of volumes Mean of y = 0.9849 Standard deviation of y = 1.6931

	Coefficient	Standard Error	T Value
a = constant	1.68	0.3317	5.0507
x_1 = formal disciplinary policy	-0.7810	0.3219	-2.4266
x_2 = attempt to inform community.	0.7166	0.2775	2.5821
x_3 = circulation in hundreds of volumes . .	-0.0009	0.0004	-2.4918
x_4 = percentage of students living on campus	-0.0073	0.0036	-2.0566
x_5 = charging desk at entrance	-0.7262	0.2612	-2.7803

$r^2 = 0.1596$ Standard error of y given x = 1.58

[a] Although the program ran for ten steps before it was instructed to terminate, this table displays the data through only the fifth steps. The appearance of the last five variables only measure the r^2 to 0.22 and reduced the standard error of y given x to 1.5413, but many of the significance levels of the coefficients as measured by the T values were reduced.

TABLE 66

MULTIPLE LINEAR REGRESSION WITH LOSS/VOLUMES AS DEPENDENT VARIABLE

$y = a + b_1x_1 + b_2x_2 + \ldots + b_9x_9$[a] y = loss/number of volumes in hundreds of volumes Mean of $y = 0.8095$ Standard deviation of $y = 0.8542$

	Coefficient	Standard Error	T Value
a = constant	1.06	0.1719	6.1734
x_1 = attempted to inform community	6.3492	0.1227	2.8465
x_2 = private administrative control	-0.2826	0.1301	-2.1725
x_3 = number of students	0.0002	0.0001	3.9099
x_4 = number of volumes	-0.0001	0.0002	-3.4644
x_5 = occasional inventory of entire collection	-0.9002	0.4469	-2.0144
x_6 = estimated method of ascertaining loss	1.6160	0.5394	2.9961
x_7 = exit guards with turnstiles	-0.8766	0.2754	-3.1835
x_8 = charging desk at entrance	-0.4775	0.1224	-3.9020
x_9 = student body honor system	-0.2752	0.1283	-2.1451

$r^2 = 0.3915$ Standard error of y given $x = 0.6866$

[a] Although the program ran for ten steps before it was instructed to terminate, this table displays the data through the ninth step. The appearance of the last variable increased the r^2 to .40 and reduced the standard error of y given x to .6820, but three of the significance levels of the coefficients as measured by the T values dropped below 2.0000.

concern. We see that a variety of variables has entered at this point: one control device, two school characteristics (one institutional type and the size of the student body), two library characteristics (number of volumes and number of professional personnel), and one semi-control device, evidence of student concern.

To one familiar with statistical analysis it is evident that the explanatory power of the data provided by this regression analysis is not very great and the predictive power not useful. Looking ahead to the 3 other multilinear regressions, we find similar results. Table 64, with loss/students as the dependent variable, shows that 6 non-numeric variables have entered at the 6th step, three of them control devices. The r^2 is very low, only .18, so 82 per cent of the variance in the dependent variable is left unaccounted for. The r^2 likewise very low in Table 65, showing the regression with loss/circulation as the dependent variable. Four of the five variables which have entered at this point are non-numeric; one, percentage of students living on campus has not appeared before in these tables. Table 66, with loss/volumes as the dependent variable, has a considerably higher r^2, .39, but again the standard error of y given x is very high. For the first time, inventory methods have entered as variables, although the ones entering are relatively unimportant methods of ascertaining loss.

Considering these four tables together, we ask, "What accounts for these poor results?" The use of a sophisticated statistical technique which allows us to see the effect of a large number of variables on our data, should allow us to account for more than 50 per cent of the variance in our loss figures. Three possibilities may be brought forward to explain why the regression analyses did not provide an equation which better describes the relation between loss and these variables. The first possibility, which the writer rejects as improbable, is that the variance in the loss figures is due to chance. The second is that we have not included among our variables, those variables which have a significant effect on the loss figures. This possibility cannot be rejected as summarily as the first. Perhaps some of the questions whose responses gave us the non-numeric variables elicited responses which were inadequate or inaccurate. If this were the case, our non-numeric variables could be far enough off the mark that the analysis indicates there is no close relationship where one actually exists. Or we may have omitted some variables that have a significant effect on loss. Perhaps a rural-versus-urban campus location, differences in the restrictions of the charging policies, or some subtle psychological effects such as the scholastic pressure in the school or the degree of frustration students experience in obtaining needed material,

account more for variance in loss than the variables we introduced into the analysis. It certainly is true that some of these variables may effect the loss rate but it does not seem reasonable to the writer that any variables such as these that she can think up, should have greater influence on the number of losses than the flow of books[1] or the number of students.

The third alternative seems the most likely to the writer. Given the background of the respondents' comments and the close examination of the loss figures, both those rejected and those used in the regression program, she believes inaccurate or incomparable loss figures to be the basic reason why the regression analyses were not more successful. The selection of the loss figures for the analysis was undertaken with a great deal of care. At the same time, it was very difficult.

---

[1]The writer took a second look at the possible relationship of intensity of use to the 156 loss figures collected in the present study. She separated the loss figures for the 31 schools with the circulation above 50,000, and within that group, she examined the figures for the 10 schools with the smallest collections, below 50,000 volumes. The median loss for schools with high intensity of use was 364, much lower than the median of 600 losses for the entire group of 31 schools. These data confirm that the loss figures gathered in the present study do not have a close relationship with intensity of use.

Additional variables which Roberts, op.cit., pp. 262-272, found not to be closely related to loss in his analysis are number of multiple copies, rate of growth, size of the collection, and volumes on reserve. Intensity of use was found to be closely correlated. Mr. Roberts was able to measure the circulation of the specific LC letter classifications in which the losses were identified, which probably accounts for the closer relationship with intensity of use his study indicated.

Figures were rejected whenever we knew that they were not comparable with the rest of the figures we were selecting. However, doubt concerning the selection process arose on two counts. The first was that although some of the figures were extremely low or seemed very unlikely for other reasons, we did not feel that we could reject them, unless we had a definite indication of incomparability, without biasing the sample. On the other hand, librarians noted facts concerning their figures, which caused us to reject them, in enough cases that we began to wonder in other cases whether such notations were missing simply because they were not specifically requested.[1]

Sophisticated statistical techniques are useful because they allow us to measure relations between variables simultaneously. But they also require that precise data be used in the analyses, particularly in the dependent variables. Two of the most important variables used in the analyses may well not have been measured accurately enough in the observations gathered by this study. Doubts concerning the complete reliability of the volumes listed as lost in inventories were raised by at least

---

[1]For example, the category of volumes "withdrawn" seems to have much more significance for a number of librarians than the sub-category of books missing presumably because they were stolen. A large number of the rejected figures were for such "withdrawn" volumes, including discards and volumes paid for after they were lost, as well as volumes missing and not charged.

one respondent.[1] Another respondent raised a very pertinent question concerning the comparability of circulation figures, which is echoed in the recommendation of the A.L.A. Statistics Coordinating Project[2] that circulation statistics not be reported nationally. And as far as was reasonable, we held the factors of inventory methods and length of time since previous inventory constant (we even held the actual time of taking the inventories constant within a two-year period, 1963-65, although later results indicated this was probably not necessary). But it is likely that, in the collection of data on the scale that this study covered, it is not possible to hold these factors constant to the precise extent required by the highly developed statistical techniques.

We conclude that the poor statistical fit was due to inaccurate or incomparable data, rather than to the exclusion of more closely related variables. For this reason, we did not manipulate this data further in an attempt to improve it,

---

[1]She commented, "Your questionnaire assumes a perfection in inventory technique which, in my experience, is unrealistic. Not all books missing in inventory are 'stolen'--many are in that limbo of 'inbetween processing' which plagues all inventory takers, no matter how thorough."

[2]The Project noted, "It is not believed possible to derive nationally comparable data, owing to variation in loan periods, in 'reserve' policies, and in centralized or decentralized operations." ALA Statistics Coordinating Project, Library Statistics: A Handbook of Concepts, Definitions, and Terminology (Chicago: American Library Association, 1966), p. 22.

either by introducing the few other variables readily available to the analyses[1] or by adjusting loss for expenditures or personnel as the dependent variable. It is the writer's belief that the technique of using a multiple linear regression formula to determine the relations of variables to loss is a very promising one. More fruitful use of it, however, will require the collection of very accurate and comparable figures for loss and circulation (as well as for other variables) on a large enough scale, and from the representative sample, to make the results significant.

---

[1]Such as the number of hours the library was open or the square footage of its facilities.

CHAPTER VII

SUMMARY AND IMPLICATIONS OF THE DATA

A study of the problem of book thefts in academic libraries was undertaken in the fall of 1965. Data on the problem were gathered by a questionnaire survey which brought in usable responses from 964 libraries. The tabulation of these responses, and their comparison with certain library and school characteristics, was funded by a grant from the Council on Library Resources. Data on the library and school characteristics were taken from the U.S. Office of Education, Library Statistics of Colleges and Universities, 1963-64 Institutional Data, and its Supplement.

In examining the results of the survey, several important limitations and qualifications to the data must be kept in mind. It was gathered a number of years ago, in late 1965 and early 1966. The survey was restricted to academic libraries and to only those with student bodies of less than 5,000. The 964 respondents can be considered characteristic of the 1,682 academic libraries at schools of this size listed in U.S. Office of Education, Library Statistics of Colleges and

Universities, 1963-64 Institutional Data, only in regard to one school characteristic, administrative control. Other characteristics indicate that the data from these respondents are biased in that the average collection size, expenditures, number of personnel, and student body size of the respondents are larger than those of the total population. One hundred fifty-six observations of loss data were used in regression analyses in an attempt to relate certain variables to loss. These figures come from schools whose characteristics do not match closely those of the 1,682 schools in the population or the 964 respondents. Except for larger average student body size, the 156 observations comes from smaller libraries (in terms of average number of volumes, personnel, or expenditures) than those of the respondents or population. Therefore, any generalizations regarding the 964 responses or the 156 loss figures must be tempered with the knowledge they may not be true for the whole population. Furthermore, at present, almost any library statistics involving collection size, circulation, or loss figures and their comparison must be viewed with caution.

Keeping these qualifications in mind, the study has yielded much fruitful data. It was undertaken primarily to gather as much concrete data as possible on the extent of the loss problem, that is, to obtain inventory figures on the

number of volumes missing through theft, from as wide a sample as was practical. Four hundred eighteen, or 43 per cent, of the study's respondents provided inventory figures. Careful examination of these figures, designated "actual figures" to distinguish them from data given by estimate, resulted in grouping them into several categories. Approximately 140 were rejected as not useful, generally because the figures were gathered from partial inventories or they included volumes weeded, and lost and paid for, as well as stolen. In some cases it was impossible to determine the time of the previous inventory, so the rate of loss for a specific period of time could not be ascertained.

Of the remaining figures, 199 were gathered in annual inventories of the entire collection, which were taken approximately one year after the previous inventory. Thirty of these figures were eliminated because the inventory methods which identified the losses were judged to be not as rigorous as the methods by which the other figures were obtained and an additional 12, because the libraries in which they were gathered did not supply data on all the variables considered to be closely related to loss.

One hundred fifty-six loss observations were used in regression analyses to try to determine the relation of loss to variables such as collection size, circulation, inventory

methods, and control devices. The results of these analyses were disappointing. We found loss to be much less closely related to variables such as size of the collection, student body, and circulation than we had expected. Even allowing the entrance of a large number of variables in the multiple linear regression analyses, and using not only loss alone, but also loss/circulation, loss/students, and loss/volumes, as dependent variables did not give a good statistical fit. In the best analysis, with loss alone as the dependent variable, we were able to account for only 47 per cent of the variance in the loss figure.

Although the results of the regression analyses themselves were disappointing, some parts of the secondary output of the program provided significant data. The correlation matrix showed that loss was most closely related to the number of professional personnel (the coefficient is .56), with number of students and total expenditures running a close second (.50 and .49 respectively). These three variables were also generally closely related to the other variables in the matrix. The average of the 156 loss figures is 229, with a standard deviation of 363, indicating a very positively skewed distribution of these figures. The average of the number of students at the 156 schools providing the loss data is 1,224, the circulation, 34,354, and the volumes in the collection, 36,440. Dividing

these variables by loss, we learn these schools experience each year the loss of one volume for about every 5 students, every 100 circulations, and every 125 volumes.[1]

The standard deviation of these ratios is also very high, 0.85 for loss/volumes in hundreds of volumes (the mean is 0.81); 1.69 for loss/circulation in hundreds of volumes (the mean is 0.98); and 0.19 for loss/students (the mean is 0.21).

Three hundred ninety-two observations of loss, based on estimates rather than inventory methods, were also gathered in the study. Fifty-seven per cent of these estimates were below 100 losses per year, with the median falling somewhere between 50 and 99, considerably lower than the median of 130 for the 169 "actual" figures.

Seventy-eight schools provided loss figures gathered by inventories taken more than one year after the previous inventory. The loss/circulation ratio was used to adjust the loss figures used in the comparison and analysis of loss data. This ratio showed a drop in the mean of the observations as the length of time since the previous inventory increased.

---

[1]It is important to remember at this point that the comparison of the means of selected characteristics of the sample of the 156 schools indicate they differ substantially from both the 964 respondents and the population of 1,682 libraries, being from libraries whose average collection size, expenditures, and number of personnel are smaller than the other two groups'.

The average of the ratio was from .009 for the observations gathered by inventories taken after two years, to .006, for those from inventories taken after six years.

Twenty-five observations of loss figures before and after the installation of control devices are among the most significant data in the study. The loss/circulation ratio was calculated and averaged for as many years of data after the installation of the control as the respondents provided. Figures for the same number of years before the installation were also calculated. The percentages of decrease (or in a few cases, increase) in losses are quite diverse, but generally show a substantial average decrease in loss after the installation of the controls.

The eleven observations of schools with exit guards showed them to be the most effective in decreasing the loss/circulation ratio. They had an average decrease of 45 per cent, with the range from a 79 per cent decrease to a 5 per cent increase. The average loss before installation of the exit guards was 455; the 45 per cent decrease gives an average of 205 volumes per year not stolen from these libraries after the control was adopted.

Schools with charging desks providing visual control had an average decrease in the loss/circulation ratio of 30 per cent. These 9 schools had widely differing changes in loss

after installing the controlled desk (the observations range from a 95 per cent decrease to a 90 per cent increase). Therefore this control method can be considered effective in some cases, but it cannot be considered consistently effective in reducing the loss/circulation ratio.

Besides the statistics on loss, the study obtained data on the extent of the use of various control devices and on librarians' opinions concerning the loss problem and the effectiveness of these controls. We learned from the first set of questions on the questionnaire that less than 22 per cent of the respondents felt loss was not a serious problem. An overwhelming 93 per cent of the respondents believed that the unavailability of volumes is a more important aspect of the problem than the financial loss, although we shall emphasize later that both aspects are crucial to constructive approaches of viewing the problem. The respondents were split almost 50-50 on the question of whether there are economically feasible ways to substantially reduce loss, or whether these methods cost more in time and money than they save. In regard to the actual use of control devices, however, we discovered that 12 per cent of the 838 respondents to the question on controls used an exit guard with or without turnstiles, as their only control method, 28 per cent rely solely on a charging desk with visual control, and 19 per cent have only the minimal control of a

student body honor system. Thirty-five per cent of the respondents employed combinations of two or more of these methods.

The cross tabulations of the use of controls with various school characteristics indicate, as we might expect, that schools with large total expenditures, student bodies, and collections tend to employ exit guards. These schools also tend to be universities and teachers' colleges. The cross tabulation between the use of controls and view of the economic feasibility of reducing loss reveals that librarians employing exit guards definitely tend to the view of a feasible reduction in loss.

From the results of the question on control devices we also learn that the installation of these devices is increasing above the rate of increase in new libraries; that of the 120 schools with exit guards, 36 per cent report a thorough inspection; and only 18 per cent of the respondents have a formal disciplinary policy.

The opinions of librarians concerning the effect of these types of controls is definitely negative, with 73 per cent indicating they did not result in a change in loss. This response was tempered by the very positive reaction of the 106 respondents who felt controls were effective and specified the particular devices which produced the change. As we saw earlier in

this summary, it is also tempered by the 25 actual observations of loss figures before and after the installation of control methods.

The questions concerning other ways of trying to control the loss problem yielded the data that while 62 per cent of the respondents attempted to appeal to the community for help in the problem, using such means as letters to the faculty and articles in the campus paper, only 30 per cent reported evidence of student concern. We received a very negative response to the question on the effect of these methods or the student concern, with 82 per cent reporting no evidence of a change in loss. However, a high percentage of the librarians who feel that the regular control devices are effective also tend to believe that the methods of informing the community and arousing student concern reduce loss. Sixty-six per cent of the respondents to the question on library policies and procedures regarding loss indicated that there has been no change in these in their library over the past decade. Fifty per cent of the study's respondents had photocopiers in their library in late 1965; there was a very positive response of 54 per cent to the question regarding the opinion of the effect of such equipment on reducing loss. Only 10 libraries closed their stacks to graduate students and 42, to undergraduates; of these libraries, only a few

gave annual loss figures so we were not able to make significant use of this variable in our study of the factors affecting loss.

Having summarized the results of the study very briefly, we now ask ourselves, "What is the significance of this data? Does it have any practical application? Can we knit it together into a meaningful perspective from which to view individual loss problems?"

Taking the average figure of 230 volumes lost per year which the 156 schools reported, we see that it represents a substantial number of volumes unavailable each year when needed. Projecting these loss figures into today's figures, 230 volumes would cost a library approximately $2,875.00 to replace;[1] and a loss of one volume for every five students in the country represents the staggering projected total of 1,440,000 volumes lost in the year 1968/69.

However, viewing the problem in these absolute terms does not lead to constructive solutions of it. Rather it tends to generate resentment against the patrons causing the problem, despair that effective means of reducing it cannot be found, or

---

[1]To the average of $10.00 per book ascertained from averaging the cost of a volume in history, general literature and science, according to the index of prices of selected hardcover trade and technical books for 1969, reported in Bowker Annual, 1970, pp. 39-40, we add a very rough processing cost of $2.50.

a desire to withdraw into the custodial facet of the librarian's personality and greatly restrict patron access to material in the hope of preserving it.

There are two ways of viewing the loss problem which are much more reasoned and lead to meaningful ways of coping with it. The first method suggests changing the emphasis in discussions of loss from methods of preventing it to using loss as an indicator of areas in which the library needs to improve its service and increase the availability of its material. The second method uses the reduction of unavailability of the whole range of material to which a library's patron does not have access as the perspective from which to view the problem of thefts. The unavailability of stolen material is seen as only one component in the total picture of library service to patrons. This method requires an accurate knowledge of the extent of loss in the individual library, the cost of various prevention methods, and their effectiveness, in order to compare the savings in replacement costs of volumes not stolen with the cost of the controls. The individual library must view any differences in these two amounts from the point of view of the availability of its total resources, to determine whether additional funds will be allocated to the prevention of loss or the increased availability of other types of material.

The first view of the problem has not been emphasized in this study, and, in fact, we find the study guilty of the very offense it is attempting to combat.[1]

A careful examination of the type and subject matter of the material stolen from any one library cannot fail, to some extent, to give an indication of the library's failure in its service or its collection to provide adequate service or material to meet its patrons' needs. This study has not been addressed to the very crucial aspect of the loss problem which involves the reasons why library books are stolen. Any kind of in-depth study of this question will require the researcher to have extensive background in psychology and sociology and thorough interviewing of students and other library patrons. It is reasonable to assume that the determinants of book theft can be well understood only when the reasons behind it are well-known. But it is also reasonable to assume that however wide the range of major reasons for theft, from the view that a book is public property and belongs to the thief as much as to

---

[1]Norman Vinnis, who proposed this view of the theft problem in "A Search for Meaning in Book Thefts," School Librarian (Spring, 1969), pp. 25-27 writes, "Alas, the emphases in the literature has been focused on the curtailment of book losses rather than on the understanding of the underlying causes of the pilfering. The immediate goal of halting filching seems to be more important than the longer-range goal of appreciating the reading needs of the students by analyzing book losses."

anyone else, to an expression of resentment against the library establishment, to a desire to beat a particular control system, a substantial number of volumes are taken because they are needed and the patron feels his need cannot be as adequately filled by playing by the rules and charging the material. Restrictive circulation and reserve policies, inadequate recall service, too few copies of heavily used materials, inadequate photocopying facilities, and inadequate collections in subject fields emphasized by a school, not only greatly increase a student's frustration. They also increase the pressure to obtain needed materials. Eventually, they decrease his willingness or ability to identify with the library's problems and policies and to work with it to fill his goal of obtaining an education.

Close examination of the type and subject content of stolen material will provide clues concerning only the library's failure in such aspects of service as the purchase of adequate numbers of copies of heavily used materials or too restrictive policies concerning reserve materials or unbound periodicals, for example. A strong emphasis on defining measures of internal performance, implementing the gathering of data which will help to measure the library's performance in serving its patrons, and then action to increase book availability in the appropriate areas in which the library is not meeting its patron's needs,

is necessary to cope with the loss problem in its widest aspects and will also, of course, increase the effectiveness of the library in its primary function of supporting the teaching functions of the school.

Emphasis on control devices and ways of loss prevention should not be abandoned, however, There will always be patrons who will attempt to steal materials no matter how perfectly the library fills his needs, and his thefts can substantially reduce book availability and the library's performance in meeting the needs of other students. The very limited number of observations which the study's respondents provided indicate that measures such as exit guards and charging desks with visual control can reduce thefts substantially.

We now come to our second recommendation for ways of viewing the loss problem, this one placing control methods in the perspective of the reduction in unavailability of all types of material in the library's collection. We indicated earlier that the question in the study polarizing book availability and the financial aspect of loss introduced a spurious dichotomy into the question of book loss. They are certainly facets of the same problem. The use of control methods, and decisions concerning the type used and the expenditures which will be outlayed to employ them, must be based both on the financial aspect of the cost of replacing stolen material and on the

equally important aspect of reducing book unavailability.

Regarding the financial cost of controls, we found in the study a very rough indication that the mean loss to the schools employing exit guards was reduced from 455 volumes to 205 volumes, a reduction in the loss/circulation ratio of 45 per cent when the guards were installed. The yearly savings of the control device for a library suffering this theoretically average loss, using the figure of $12.50 per volume replacement cost, is approximately $2,550.00. If the guard's only function is to reduce loss, this library has expended a considerably larger sum for his salary (perhaps $5,000 above the replacement costs) than it would have needed to replace the books. In addition, a substantial number of the books would have been returned after one or two years. In order to equal the $7,500.00 cost of employing a guard, the library would need to lose and replace an average of 600 volumes per year.

If the average loss to a library using a charging desk with visual control, projecting again from our figures, is reduced by 30 per cent, or 71 volumes per year, the library saves replacement costs of approximately $850.00 to balance against the additional cost, if any, of keeping someone continually at the charging desk.

Taking the average of 230 books lost by our subgroup of 156 schools and applying it to a theoretical use of one of

the electronic exit control systems, we find that by using a system such as the Checkpoint system, the yearly replacement cost of $2,875.00 more than balances the on-going operating costs of roughly $2,100.00[1] as long as the loss is reduced by at least 73 per cent, to approximately 60 volumes per year. However, the installation cost and the cost of applying the detector pieces to the entire collection, or a portion of it, must also be taken into account. Assuming this cost to be approximately $4,000.00 for an existing collection of 36,000 volumes (at $0.11 per detector) a yearly decrease in loss of 100 per cent for approximately a ten-year period would be required to balance the installation and operating costs, if only financial aspects are considered.

This discussion of the costs of control systems in libraries with theoretically average losses has been made to provide a background for emphasizing several important points in our second recommendation for viewing the loss question. Meaningful decisions concerning the installation or use of controls can only be made when data concerning a number of specific variables in the library is at hand. An accurate picture of the number of volumes stolen, their searching and

---

[1]Based on figures of $135.00 per month to lease the exit control equipment and the application of the detector piece to approximately 3,500 new volumes.

replacement costs, the rate of return after their initial theft, and the relative costs of operating several control methods must be available to a librarian before he can decide if the replacement of the volumes lost balances the cost of a particular device. If it does not, he needs a knowledge of these variables to determine whether the library considers the reduction in unavailability effected by the device to be significant enough to use additional monies to fund it or, if not, to choose between other alternatives. For all libraries (small ones in particular, where neither the number of volumes stolen or their replacement cost is great), the librarian, in examining alternatives, may do well to simply consider counteracting the unavailability of stolen material by rapid identification and replacement of it and in addition, using his limited funds to increase the availability of other materials. This latter approach might include the alternatives of allocating staff and funds to projects such as eliminating filing and cataloging arrearages, increasing the speed of obtaining current materials, or reducing the time material is unavailable at the bindery, rather than reducing the number of stolen volumes.

As the reader may have observed by this point, these two constructive ways of viewing the loss problem are essentially opposite sides of the same coin. They both view the

loss problem ultimately in terms of library service and the availability of material, rather than of the absolute loss of the stolen material and the need for preventive and punitive measures to reduce the anti-social and anti-library behavior. The first method points out the pernicious emphasis on loss prevention in library literature and stresses an increase in library service and the availability of material. The second method builds on the first. Taking the cue that prevention methods should not be overemphasized, it stresses that given an accurate knowledge of loss, the effectiveness of specific control measures, and the individual library's performance in serving its patrons' needs, the relative cost and effectiveness of theft prevention measures must be balanced against the cost and effectiveness of reducing the unavailability of other types of material.

Librarians considering this second recommendation may say, "This is all well and good, but accurate data on the variables on which this meaningful decision is to be based is not at hand for my library. To obtain data on losses and control methods is not practical in the midst of all my other immediate concerns."

The final recommandation of this study is the undertaking of further ones, to establish parameters of acceptable loss rates, which are based on an understanding of the

determinants of theft and can be adjusted to individual libraries.[1] Such parameters would need to take into account a projected loss rate for a library without the use of controls, and its relative decrease with the application of specific types of controls. Using it, librarians could make accurate judgments concerning the choice of using library funds to decrease the unavailability of stolen volumes by control methods or increasing the availability of other types of material.

The present study made an initial attempt to establish some of the determinants of theft by applying multiple linear regression analyses to the loss figures it gathered. The writer believes that the regression analyses accounted for only a small percentage of the variance in the loss figures because these figures, as well as the independent variables, were not measured with sufficient precision. By obtaining samples of accurate loss figures from carefully conducted inventories and using variables of known accuracy and comparability, further progress could be made toward establishing these parameters.

Perhaps a team of researchers, knowledgeable about

---

[1]Roberts, op.cit., p. 274 writes, in a similar vein, "The individual library must recognize that it is going to lose some books, the number being directly related to the environmental and other conditions under which it operates; the essential idea is to reduce losses to the lowest possible level within those conditions."

both statistics and library procedures, with a pre-established schedule for sampling individual collections, could visit a sample of academic libraries. This team could train the individual library's personnel to collect data from that library, by identifying the objectives of the study and explaining in detail the exact inventory and other collection methods necessary to obtain precise and comparable figures. When the researchers are satisfied that they have obtained sufficiently precise data, further statistical analyses with loss as the dependent variable will be fruitful. Identification of additional variables related to loss, not used in the present study, which could be brought into these future regression analyses should also be undertaken. Studies of the psychological and sociological factors influencing book thefts will round out the profession's knowledge of the reasons why books are stolen, taking the profession's knowledge of the problem an additional step beyond the present study.

APPENDIX A

CHARACTERISTICS OF THE RESPONDENTS

In order to round out our knowledge of the study's respondents and their characteristics, we will examine briefly several tables displaying the results of several questions not previously discussed and the frequency distributions of several of the most important school characteristics.

Tables 67 and 68 show the distribution of the respondent's circulation. We discussed in Chapter VI the various factors which make comparison of circulation figures not meaningful in many cases. Therefore, we shall put little emphasis on these tables besides indicating that they contain data not found in the U.S. Office of Education publications, Library Statistics of Colleges and Universities. It is interesting to note the relatively high figures in the lowest and highest categories, where we find 17 per cent of the respondents reporting total circulation of less than 10,000 and one-quarter, above 50,000.[1]

Table 69 shows the responses to the question on the percentage of students living on campus, a variable which the writer thought might be closely related to loss when the

---

[1]The large number of blanks in these tables is due to the unfortunate coincidence of the column numbers to be used in punching the tabulating cards appearing to some respondents to be a request for figures for various years early in the 1960's. The discrepancies in the resulting data made the misinterpretations obvious and they were not used in the study.

TABLE 67

TOTAL CIRCULATION

Category[a]	Number of Responses	Percentage of Responses
Less than 10,0..	140	17.3
10,0.. - 19,9..	173	21.4
20,0.. - 29,9..	131	16.2
30,0.. - 49,9..	162	20.0
50,0.. - 74,9..	101	12.5
75,0.. - 999,9..	101	12.5
Number of responses	808	
Blanks.	156	

[a]Last two digits dropped in coding, so figures are in hundreds of volumes.

TABLE 68

RESERVE AND NON-RESERVE CIRCULATION

Reserve Circulation			Non-Reserve Circulation		
Category[a]	Number of Responses	Percentage of Responses	Category[a]	Number of Responses	Percentage of Responses
Less than 5,0..	241	40.4	Less than 10,0..	125	20.4
5,0.. - 9,9..	120	20.1	10,0.. - 19,9..	149	24.3
10,0.. - 24,9..	151	25.3	20,0.. - 29,9..	121	19.7
25,0.. -999,9..	85	14.2	30,0.. - 39,9..	72	11.7
			40,0.. -999,9..	146	23.8
Number of responses	597			613	
Blanks.	367			351	

[a] In order to decrease the amount of coding necessary to transfer this data onto punched cards, the last two digits of each figure were dropped. Therefore, the data was in effect recorded in hundreds of volumes.

TABLE 69

PERCENTAGE OF STUDENTS LIVING ON CAMPUS

Percentage of Students Living on Campus	Number of Responses	Percentage of Responses
0 - 25	89	11.6
26 - 50	176	22.9
51 - 75	192	25.0
76 - 99	310	40.4

Number of responses 767

Blanks. 197

study was initiated.[1] Only 11 per cent of the respondents have less than 25 per cent of their students living on campus, and 40 per cent report more than three-quarters on campus.

Two tables relate specifically to the responding librarian. Table 70 shows that the great majority indicated their status as librarian or library director. We find in Table 71 that the majority are very experienced librarians. Only 5 per cent reported less than one year's experience at their present library, while 43 per cent have been there for over ten years. Sixty-one per cent have been in the profession for over ten years, and less than 18 per cent had less than five years of library experience. Recalling the cross tabulation of the opinion of the seriousness of the loss problem with length of service, which we discussed in Chapter III, we surmise from this heavy weighting of the respondents with long service that the study's respondents may have indicated less concern with the problem than some of the junior members of their staff may feel.

Brief discussion of the distribution of some of the more important characteristics of the responding libraries and the population of schools with less than 5,000 students, as

---

[1]The relation between loss and percentage of students on campus is practically non-existent. The coefficient is -.004.

TABLE 70

TITLE OF RESPONDENT TO QUESTIONNAIRE

	Number of Responses	Percentage of Responses
Librarian or Library Director	881	91.4
Assistant or Associate Librarian	39	4.0
Head of (or title includes) Reader Services	5	0.5
Reference Librarian	5	0.5
Other	34	3.5

Number of respondents 964

Blanks. 0

TABLE 71

LENGTH OF LIBRARIAN'S SERVICE IN LIBRARY AND PROFESSION

Length of Librarian's Service	In Library		In College or University Libraries	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Less than one year.	50	5.3	17	1.8
One year, but less than three years	136	14.3	60	6.4
Over three, but less than five years	143	15.0	90	9.5
Over five, but less than ten years	207	21.8	199	21.1
Over ten years.	415	43.6	577	61.2
Number of responses	951		943	
Blanks.	13		21	

well as their comparison with the 156 schools providing loss figures, will conclude the study. We mentioned in the discussion of the study's methodology that the two subgroups are not representative of the population, but we did not specify the differences in the average of their characteristics. Referring back to the means in Tables 2 and 3 in Chapter II, we see that except for the characteristic of number of students, the 156 libraries giving loss figures are considerably smaller than either the population's or the respondents' libraries. Their average collection size is only 36,440 volumes, compared with 57,160 for the respondents and 52,530 for the population. Their total expenditures are $46,240, compared with $60,100 and $55,540 respectively. The comparison of book expenditures shows the average figures of $15,960 for the 156 schools, and $20,270 and $18,740 for the other groups. The number of professional personnel employed is much lower, 2.47, compared to 3.34 and 3.11. Also evident from these figures is the fact that the total population forms the middle group in the comparison, having larger collections, expenditures, and number of personnel than the 156 subgroup but smaller than the respondents. On the other hand, the 156 schools have the largest average student body, with the respondents second in size and the total population last.

The remaining tables show the distribution of the respondents and population for selected characteristics. We find, according to Table 72 approximately one-third of both groups at publicly administered schools. We have discussed Table 73 extensively in Chapter VI, so we will only remark here on the large percentage (over 40 per cent) of respondents and schools in the population which are liberal arts colleges. The percentage of graduate students (Table 74) in both groups is low; approximately 60 per cent have less than 10 per cent graduate students. The distribution of the number of students and volumes (Tables 75 and 76) reveals that 12 per cent of the respondents have very small collections (less than 10,000 volumes) and 32 per cent have student bodies under 500 students. Likewise, the funds for a substantial portion of the respondents are quite low. We find in Table 77 25 per cent reporting total expenditures of under $20,100 and in Table 78 20 per cent with book expenditures less than $5,000.

TABLE 72

PUBLIC - PRIVATE ADMINISTRATIVE CONTROL

Category	Respondents To Questionnaire		Schools In Library Statistics...1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
Public	313	32.5	555	33.0
Private	651	67.5	1,127	67.0
Number of respondents	964		1,682	
Blanks	0		0	

TABLE 73

TYPE OF INSTITUTION

Category	Respondents To Questionnaire		Schools In Library Statistics.... 1963-64	
	Number	Percentage of Respondant Base	Number	Percentage of School Base
Liberal Arts College	427	44.3	701	41.7
University	23	2.4	31	1.8
Junior College	247	25.6	453	26.9
Teachers College	93	9.6	160	9.5
Technical, Theological, Fine Arts, or other Professional School	157	16.3	301	17.9
Technical Institute or Semi-Professional School.	17	1.8	36	2.1
Number of respondents	964		1,682	
Blanks.	0		0	

TABLE 74

PERCENTAGE OF GRADUATE STUDENTS

Category, Per Cent	Respondents To Questionnaire		Schools In Library Statistics....1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
1 - 9	170	61.8	256	58.2
10 - 100	105	38.2	184	41.8
Number of respondents	275		440	
Blanks.	689		1,242	

TABLE 75

NUMBER OF STUDENTS

Category	Respondents To Questionnaire		Schools In Library Statistics....1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
1 - 499	315	32.7	609	36.2
500 - 999	251	26.0	435	25.9
1,000 - 1,499	134	13.9	231	13.7
1,500 - 1,999	79	8.2	116	6.9
2,000 - 2,499	50	5.2	83	4.9
2,500 - 4,999	135	14.0	207	12.3
Number of respondents	964		1,681	
Blanks.	0		1	

TABLE 76

NUMBER OF VOLUMES

Category[a]	Respondents To Questionnaire		Schools In Library Statistics....1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
Less than 10,0..	118	12.2	249	14.8
10,0.. - 20,0..	170	17.6	325	19.3
20,1.. - 40,0..	203	21.1	370	22.0
40,1.. - 60,0..	174	18.0	280	16.6
60,1.. - 80,0..	104	10.8	158	9.4
80,1.. -999,9..	195	20.2	300	17.8
Number of respondents	964		1,682	
Blanks.	0		0	

[a]In order to decrease the amount of coding necessary to transfer this data onto punched cards, the last two digits of each figure were dropped. Therefore, the data was in effect recorded in hundreds of volumes.

TABLE 77

TOTAL OPERATING EXPENDITURES

Category, Dollars[a]	Respondents To Questionnaire		Schools In Library Statistics....1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
Less than 10,0..	90	9.4	189	11.3
10,0.. - 20,0..	153	15.9	318	19.1
20,1.. - 40,0..	237	24.7	412	24.7
40,1.. - 60,0..	169	17.6	272	16.3
60,1.. - 80,0..	111	11.6	166	10.0
80,1.. -999,9..	200	20.8	310	18.6
Number of respondents	960		1,667	
Blanks.	4		15	

[a]In order to decrease the amount of coding necessary to transfer this data onto punched cards, the last two digits of each figure were dropped. Therefore, the data was in effect recorded in hundreds of dollars.

TABLE 78

EXPENDITURES FOR BOOKS AND OTHER LIBRARY MATERIALS

Category, Dollars[a]	Respondents To Questionnaire		Schools In Library Statistics....1963-64	
	Number	Percentage of Respondent Base	Number	Percentage of School Base
Less than 5,0..	193	20.1	406	24.4
5,0.. - 9,9..	181	18.9	333	20.4
10,0.. -19,9..	273	28.4	445	26.7
20,0.. - 49,9..	238	24.8	365	21.9
50,0.. -999,9..	75	7.8	117	7.0
Number of respondents	960		1,666	
Blanks.	4		16	

[a]In order to decrease the amount of coding necessary to transfer this data onto punched cards, the last two digits of each figure were dropped. Therefore, the data was in effect recorded in hundreds of dollars.

APPENDIX B

SUPPLEMENTARY TABLES

TABLES 79-98

TABLE 79

COMPLETE LIST OF CROSS TABULATIONS

Seriousness of the Problem (Question 1)

Questions: 2, 3, 5, 8, 9, 24, 26 (total circulation only), and 27

School Characteristics: control, type, students, per cent of graduate students, volumes, and total expenditures

Financial Loss Versus Unavailability (Question 2)

Questions: 3, 5, 8, 9, 24, and 26 (total circulation only)

School Characteristics: control, type, students, volumes, total expenditures, book expenditures, dollars per full-time equivalent student, and dollars per full-time equivalent faculty

View of Loss Prevention (Question 3)

Questions: 5, 8, 9, 24, and 26 (total circulation only)

School Characteristics: control, type, students, volumes, total expenditures, book expenditures, dollars per full-time equivalent student, and dollars per full-time equivalent faculty

Methods Used to Collect Data (Question 5)

School Characteristics: type, volumes, total expenditures, book expenditures, and dollars per full-time equivalent student

Change in Losses (Question 8)

See Questions 1, 2, and 3

Control Devices (Question 9)

Question 25

School Characteristics: type, students, volumes, total expenditures, and dollars per full-time equivalent student

Effect of Control Devices on Change in Loss (Question 12)

Questions: 15 and 27

School Characteristics: type, students, per cent of graduate students, volumes, total expenditures, book expenditures, and dollars per full-time equivalent student

TABLE 79 - CONTINUED

Attempt to Inform Community (Question 13)

Questions: 14, 15, and 27

Methods of Informing Community of Loss Problem (Question 13A)

Question 27

School Characteristics: type, students, per cent of graduate students, volumes, total expenditures, book expenditures, and dollars per full-time equivalent student

Student Concern (Question 14)

Questions: 15 and 27

School Characteristics: control, type, students, per cent of full-time undergraduate students, per cent of part-time undergraduate students, and per cent of graduate students

Effect of Informing Community on Change in Losses (Question 15)

Question 27

School Characteristics: control, type, students, per cent of full-time undergraduate students, per cent of part-time undergraduate students, and per cent of graduate students

Availability of Stacks (Question 25)

Question 26 (total circulation only)

Losses (Questions 6 and 7)

Questions: 1, 2, 3, 5, 8, 9, 10, 11, 12, 12A, 13, 13A, 14, 14A, 15, 15A, 16, 18, 19, 22, and 25

School Characteristics: control and type

TABLE 80

ACTUAL LOSSES: FORMAL DISCIPLINARY MEASURES

Actual Losses	Formal Disciplinary Measures Yes	Formal Disciplinary Measures No	Row Totals
1 - 9	3 (33.3 %) (8.8 %)	6 (66.7 %) (4.6 %)	9 (5.5 %)
10 - 49	14 (37.8 %) (41.2 %)	23 (62.2 %) (17.6 %)	37 (22.4 %)
50 - 99	4 (16.7 %) (11.8 %)	20 (83.3 %) (15.3 %)	24 (14.5 %)
100 - 149	5 (19.2 %) (14.7 %)	21 (80.8 %) (16.0 %)	26 (15.8 %)
150 - 199	2 (15.4 %) (5.9 %)	11 (84.6 %) (8.4 %)	13 (7.9 %)
200 - 299	4 (21.1 %) (11.8 %)	15 (78.9 %) (11.5 %)	19 (11.5 %)
300 - 399	0 (0.0 %) (0.0 %)	12 (100.0 %) (9.2 %)	12 (7.3 %)
400 - 9,999	2 (8.0 %) (5.9 %)	23 (92.0 %) (17.6 %)	25 (15.2 %)
Column totals	34 (20.6 %)	131 (79.4 %)	

Number of responses 165

X^2. . . . . 18.562

df. 7

TABLE 81

NUMBER OF STUDENTS: EFFECT OF CONTROL DEVICES ON CHANGE IN LOSSES

Number of Students	Effect of Control Devices on Change in Losses: Yes	Effect of Control Devices on Change in Losses: No	Row Totals
1 - 499	35 (22.2 %) (24.8 %)	123 (77.8 %) (31.5 %)	158 (29.8 %)
500 - 999	28 (21.7 %) (19.9 %)	101 (78.3 %) (25.9 %)	129 (24.3 %)
1,000 - 1,499	14 (17.9 %) (9.9 %)	64 (82.1 %) (16.4 %)	78 (14.7 %)
1,500 - 1,999	17 (34.0 %) (12.1 %)	33 (66.0 %) (8.5 %)	50 (9.4 %)
2,000 - 2,499	9 (33.3 %) (6.4 %)	18 (66.7 %) (+.6 %)	27 (5.1 %)
2,500 - 4,999	38 (42.7 %) (27.0 %)	51 (57.3 %) (13.1 %)	89 (16.8 %)
Column totals	141 (26.6 %)	390 (73.4 %)	

Number of responses 531

X^2. . . . . 20.443

df. 5

TABLE 82

BOOK EXPENDITURES: EFFECT OF CONTROL DEVICES ON CHANGE IN LOSSES

Book Expenditures In Dollars[a]	Effect of Control Devices on Change in Losses: Yes	Effect of Control Devices on Change in Losses: No	Row Totals
Less than 5,0..	23 (26.1 %) (16.3 %)	65 (73.9 %) (16.7 %)	88 (16.6 %)
5,0.. - 9,9..	17 (17.7 %) (12.1 %)	79 (82.3 %) (20.3 %)	96 (18.1 %)
10,0.. - 19,9..	41 (27.3 %) (29.1 %)	109 (72.7 %) (28.0 %)	150 (28.3 %)
20,0.. - 49,9..	43 (27.7 %) (30.5 %)	112 (72.3 %) (28.8 %)	155 (29.2 %)
50,0.. - 999,9..	17 (41.5 %) (12.1 %)	24 (58.5 %) (6.2 %)	41 (7.7 %)
Column totals	141 (26.6 %)	389 (73.4 %)	

Number of responses 530

X^2. . . . . 10.051

df. 4

Significant at 5 % level

[a]Last two digits dropped in coding, so figures are in hundreds of dollars.

TABLE 83

ACTUAL LOSSES: ATTEMPT TO INFORM COMMUNITY

Actual Losses	Attempt to Inform Community of Book Losses: Yes	Attempt to Inform Community of Book Losses: No	Row Totals
1 - 9	2 (28.6 %) (1.8 %)	5 (71.4 %) (10.6 %)	7 (4.4 %)
10 - 49	19 (54.3 %) (16.8 %)	16 (45.7 %) (34.0 %)	35 (21.9 %)
50 - 99	15 (68.2 %) (13.3 %)	7 (31.8 %) (14.9 %)	22 (13.7 %)
100 - 149	18 (69.2 %) (15.9 %)	8 (30.8 %) (17.0 %)	26 (16.3 %)
150 - 199	11 (84.6 %) (9.7 %)	2 (15.4 %) (4.3 %)	13 (8.1 %)
200 - 299	14 (70.0 %) (12.4 %)	6 (30.0 %) (12.8 %)	20 (12.5 %)
300 - 399	13 (100.0 %) (11.5 %)	0 (0.0 %) (0.0 %)	13 (8.1 %)
400 - 9,999	21 (87.5 %) (18.6 %)	3 (12.5 %) (6.4 %)	24 (15.0 %)
Column totals	113 (70.6 %)	47 (29.4 %)	

Number of responses 160

X^2. . . . . 20.055

df. 7

TABLE 84

METHODS OF INFORMING COMMUNITY OF LOSS PROBLEM: NUMBER OF STUDENTS

Methods of Informing Community of Loss Problem	Number of Students: 1 - 499	500 - 999	1,000 - 1,499	1,500 - 1,999	2,000 - 2,499	2,500 - 4,999	Row Totals
Letters to the faculty . 1	20 (27.4%) (12.7%)	21 (28.8%) (15.0%)	10 (13.7%) (11.8%)	5 (6.8%) (10.6%)	7 (9.6%) (22.6%)	10 (13.7%) (11.8%)	73 (13.4%)
Notices posted in the library. 2	15 (71.4%) (9.3%)	2 (9.5%) (1.4%)	1 (4.8%) (1.2%)	2 (9.5%) (4.3%)	0 (0.0%) (0.0%)	1 (4.8%) (1.2%)	21 (3.9%)
Articles in campus newspapers 3	6 (13.0%) (3.8%)	11 (23.9%) (7.9%)	7 (15.2%) (8.2%)	4 (8.7%) (8.5%)	2 (4.3%) (6.5%)	16 (34.8%) (18.8%)	46 (8.4%)
Other. 4	42 (31.1%) (26.8%)	37 (27.4%) (26.4%)	20 (14.8%) (23.5%)	9 (6.7%) (19.1%)	7 (5.2%) (22.6%)	20 (14.8%) (23.5%)	135 (24.8%)
Methods 1 and 2. 5	16 (57.1%) (10.2%)	8 (28.6%) (5.7%)	4 (14.3%) (4.7%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	28 (5.1%)
Methods 1 and 3. 6	5 (7.9%) (3[illegible])	22 (34.9%) (15.7%)	10 (15.9%) (11.8%)	6 (9.5%) (12.8%)	5 (7.9%) (16.1%)	15 (23.8%) (17.6%)	63 (11.6%)
Methods 1 and 4. 7	9 (40.9%) (5.7%)	8 (36.4%) (5.7%)	1 (4.5%) (1.2%)	1 (4.5%) (2.1%)	2 (9.1%) (6.5%)	1 (4.5%) (1.2%)	22 (4.0%)
Methods 2 and 3. 8	8 (44.4%) (5.1%)	4 (22.2%) (2.9%)	3 (16.7%) (3.5%)	1 (5.6%) (2.1%)	2 (11.1%) (6.5%)	0 (0.0%) (0.0%)	18 (3.3%)
Methods 2 and 4. 9	8 (80.0%) (5.1%)	0 (0.0%) (0.0%)	1 (10.0%) (1.2%)	0 (0.0%) (0.0%)	1 (10.0%) (3.2%)	0 (0.0%) (0.0%)	10 (1.8%)
Methods 3 and 4. 10	4 (12.1%) (2.5%)	9 (27.3%) (6.4%)	4 (12.1%) (4.7%)	8 (24.2%) (17.0%)	1 (3.0%) (3.2%)	7 (21.2%) (8.2%)	33 (6.1%)
Combinations of 3 and 4 methods. 11	24 (25.0%) (15.3%)	18 (18.8%) (12.9%)	24 (25.0%) (28.2%)	11 (11.5%) (23.4%)	4 (4.2%) (12.9%)	15 (15.6%) (17.6%)	96 (17.6%)
Column totals.	157 (28.8%)	140 (25.7%)	85 (15.6%)	47 (8.6%)	31 (5.7%)	85 (15.6%)	

Number of responses	545
X^2.	137.900
df.	50

TABLE 85

METHODS OF INFORMING COMMUNITY OF LOSS PROBLEM: TOTAL OPERATING EXPENDITURES

Methods of Informing Community of Loss Problem	Total Operating Expenditures in Dollars[a]						Row Totals
	Less than 10,0..	10,0.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. - 999,999	
Letters to the faculty . 1	4 (5.5%) (12.1%)	9 (12.3%) (11.4%)	24 (32.9%) (17.6%)	11 (15.1%) (10.5%)	8 (11.0%) (11.6%)	17 (23.3%) (14.0%)	73 (13.4%)
Notices posted in the library. 2	8 (40.0%) (24.2%)	2 (10.0%) (2.5%)	5 (25.0%) (3.7%)	2 (10.0%) (1.9%)	1 (5.0%) (1.4%)	2 (10.0%) (1.7%)	20 (3.7%)
Articles in campus newspapers 3	1 (2.2%) (3.0%)	2 (4.3%) (2.5%)	8 (17.4%) (5.9%)	7 (15.2%) (6.7%)	6 (13.0%) (8.7%)	22 (47.8%) (18.2%)	46 (8.5%)
Other. 4	8 (5.9%) (24.2%)	23 (17.0%) (29.1%)	36 (26.7%) (26.5%)	27 (20.0%) (25.7%)	19 (14.1%) (27.5%)	22 (16.3%) (18.2%)	135 (24.9%)
Methods 1 and 2. 5	3 (10.7%) (9.1%)	11 (39.3%) (13.9%)	10 (35.7%) (7.4%)	3 (10.7%) (2.9%)	0 (0.0%) (0.0%)	1 (3.6%) (0.8%)	28 (5.2%)
Methods 1 and 3. 6	0 (0.0%) (0.0%)	6 (9.5%) (7.6%)	11 (17.5%) (8.1%)	22 (34.9%) (21.0%)	5 (7.9%) (7.2%)	19 (30.2%) (15.7%)	63 (11.6%)
Methods 1 and 4. 7	1 (4.5%) (3.0%)	5 (22.7%) (6.3%)	7 (31.8%) (5.1%)	4 (18.2%) (3.8%)	5 (22.7%) (7.2%)	0 (0.0%) (0.0%)	22 (4.1%)
Methods 2 and 3. 8	2 (11.1%) (6.1%)	4 (22.2%) (5.1%)	5 (27.8%) (3.7%)	2 (11.1%) (1.9%)	1 (5.6%) (1.4%)	4 (22.2%) (3.3%)	18 (3.3%)
Methods 2 and 4. 9	2 (20.0%) (6.1%)	3 (30.0%) (3.8%)	3 (30.0%) (2.2%)	0 (0.0%) (0.0%)	0 (0.0%) (0.0%)	2 (20.0%) (1.7%)	10 (1.8%)
Methods 3 and 4. 10	0 (0.0%) (0.0%)	2 (6.3%) (2.5%)	7 (21.9%) (5.1%)	7 (21.9%) (6.7%)	7 (21.9%) (10.1%)	9 (28.1%) (7.4%)	32 (5.9%)
Combinations of 3 and 4 methods. 11	4 (4.2%) (12.1%)	12 (12.5%) (15.2%)	20 (20.8%) (14.7%)	20 (20.8%) (19.0%)	17 (17.7%) (24.6%)	23 (24.0%) (19.0%)	96 (17.7%)
Column totals.	33 (6.1%)	79 (14.5%)	136 (25.0%)	105 (19.3%)	69 (12.7%)	121 (22.3%)	

Number of responses	543
X^2.	147.564
df.	50

[a]Last two digits dropped in coding, so figures are in hundreds of dollars.

TABLE 86

METHODS OF INFORMING COMMUNITY OF LOSS PROBLEM: BOOK EXPENDITURE

Methods of Informing Community of Loss Problem	Book Expenditures in Dollars[a]					Row Totals
	Less than 5,0..	5,0.. - 9,9..	10,0.. - 19,9..	20,0.. - 49,9..	50,0.. - 99,9..	
Letters to the faculty. 1	9 (12.3%) (10.2%)	18 (24.7%) (16.4%)	23 (31.5%) (14.1%)	19 (26.0%) (13.7%)	4 (5.5%) (8.7%)	73 (13.4%)
Notices posted in the library . . 2	9 (42.9%) (10.2%)	2 (9.5%) (1.8%)	6 (28.6%) (3.7%)	3 (14.3%) (2.2%)	1 (4.8%) (2.2%)	21 (3.8%)
Articles in campus newspapers . . 3	3 (6.5%) (3.4%)	5 (10.9%) (4.5%)	12 (26.1%) (7.4%)	16 (34.8%) (11.5%)	10 (21.7%) (21.7%)	46 (8.4%)
Other 4	26 (19.3%) (29.5%)	29 (21.5%) (26.4%)	41 (30.4%) (25.2%)	29 (21.5%) (20.9%)	10 (7.4%) (21.7%)	135 (24.7%)
Methods 1 and 2 5	9 (32.1%) (10.2%)	10 (35.7%) (9.1%)	8 (28.6%) (4.9%)	1 (3.6%) (0.7%)	0 (0.0%) (0.0%)	28 (5.1%)
Methods 1 and 3 6	4 (6.3%) (4.5%)	10 (15.9%) (9.1%)	23 (36.5%) (14.1%)	17 (27.0%) (12.2%)	9 (14.3%) (19.6%)	63 (11.5%)
Methods 1 and 4 7	6 (27.3%) (6.8%)	5 (22.7%) (4.5%)	7 (31.8%) (4.3%)	4 (18.2%) (2.9%)	0 (0.0%) (0.0%)	22 (4.0%)
Methods 2 and 3 8	4 (22.2%) (4.5%)	5 (27.8%) (4.5%)	4 (22.2%) (2.5%)	4 (22.2%) (2.9%)	1 (5.6%) (2.2%)	18 (3.3%)
Methods 2 and 4 9	3 (27.3%) (3.4%)	4 (36.4%) (3.6%)	2 (18.2%) (1.2%)	2 (18.2%) (1.4%)	0 (0.0%) (0.0%)	11 (2.0%)
Methods 3 and 4 10	2 (6.3%) (2.3%)	6 (18.8%) (5.5%)	10 (31.3%) (6.1%)	12 (37.5%) (8.6%)	2 (6.3%) (4.3%)	32 (5.9%)
Combinations of 3 and 4 methods .11	13 (13.4%) (14.8%)	16 (16.5%) (14.5%)	27 (27.8%) (16.6%)	32 (33.0%) (23.0%)	9 (9.3%) (19.6%)	97 (17.8%)
Column totals	88 (16.1%)	110 (20.1%)	163 (29.9%)	139 (25.5%)	46 (8.4%)	

Number of responses 546
X^2. . . . . 90.095
df. 40

[a]Last two digits dropped in coding, so figures are in hundreds of dollars.

TABLE 87

METHODS OF INFORMING COMMUNITY OF LOSS PROBLEM: NUMBER OF VOLUMES

Methods of Informing Community of Loss Problem	Number of Volumes[a]: Less than 10,0..	10,0.. - 20,0..	20,1.. - 40,0..	40,1.. - 60,0..	60,1.. - 80,0..	80,1.. 999,9..	Row Totals
Letters to the faculty . 1	4 (5.5%) (7.5%)	10 (13.7%) (10.9%)	23 (31.5%) (19.3%)	11 (15.1%) (10.9%)	5 (6.8%) (7.8%)	20 (27.4%) (16.8%)	73 (13.3%)
Notices posted in the library. 2	4 (19.0%) (7.5%)	4 (19.0%) (4.3%)	5 (23.8%) (4.2%)	3 (14.3%) (3.0%)	2 (9.5%) (3.1%)	3 (14.3%) (2.5%)	21 (3.8%)
Articles in campus newspapers 3	5 (10.9%) (9.4%)	3 (6.5%) (3.3%)	8 (17.4%) (6.7%)	7 (15.2%) (6.9%)	9 (19.6%) (14.1%)	14 (30.4%) (11.8%)	46 (8.4%)
Other 4	15 (11.1%) (28.3%)	25 (18.5%) (27.2%)	29 (21.5%) (24.4%)	30 (22.2%) (29.7%)	15 (11.1%) (23.4%)	21 (15.6%) (17.6%)	135 (24.6%)
Methods number 1 and 2 . 5	4 (14.3%) (7.5%)	8 (28.6%) (8.7%)	10 (35.7%) (8.4%)	5 (17.9%) (5.0%)	0 (0.0%) (0.0%)	1 (3.6%) (0.8%)	28 (5.1%)
Methods number 1 and 3 . 6	3 (4.8%) (5.7%)	12 (19.0%) (13.0%)	11 (17.5%) (9.2%)	15 (23.8%) (14.9%)	6 (9.5%) (9.4%)	16 (25.4%) (13.4%)	63 (11.5%)
Methods number 1 and 4 . 7	3 (13.6%) (5.7%)	6 (27.3%) (6.5%)	5 (22.7%) (4.2%)	1 (4.5%) (1.0%)	1 (4.5%) (1.6%)	6 (27.3%) (5.0%)	22 (4.0%)
Methods number 2 and 3 . 8	3 (15.8%) (5.7%)	5 (26.3%) (5.4%)	3 (15.8%) (2.5%)	2 (10.5%) (2.0%)	3 (15.8%) (4.7%)	3 (15.8%) (2.5%)	19 (3.5%)
Methods number 2 and 4 . 9	1 (9.1%) (1.9%)	3 (27.3%) (3.3%)	3 (27.3%) (2.5%)	3 (27.3%) (3.0%)	1 (9.1%) (1.6%)	0 (0.0%) (0.0%)	11 (2.0%)
Methods number 3 and 4 .10	2 (6.1%) (3.8%)	3 (9.1%) (3.3%)	6 (18.2%) (5.0%)	5 (15.2%) (5.0%)	6 (18.2%) (9.4%)	11 (33.3%) (9.2%)	33 (6.0%)
Combinations of 3 or 4 methods. 11	9 (9.3%) (17.0%)	13 (13.4%) (14.1%)	16 (16.5%) (13.4%)	19 (19.6%) (18.8%)	16 (16.5%) (25.0%)	24 (24.7%) (20.2%)	97 (17.7%)
Column totals	53 (9.7%)	92 (16.8%)	119 (21.7%)	101 (18.4%)	64 (11.7%)	119 (21.7%)	

Number of responses 548
X^2 . . . . . 77.907
df 50

[a] Last two digits dropped in coding, so figures are in hundreds of volumes.

TABLE 88

NUMBER OF STUDENTS: STUDENT CONCERN

Number of Students	Student Concern Over The Problem of Book Losses: Yes	No	Row Totals
1 - 499	58 (19.4 %) (20.7 %)	241 (80.6 %) (37.2 %)	299 (32.2 %)
500 - 999	66 (27.0 %) (23.6 %)	178 (73.0 %) (27.5 %)	244 (26.3 %)
1,000 - 1,499	49 (38.3 %) (17.5 %)	79 (61.7 %) (12.2 %)	128 (13.8 %)
1,500 - 1,999	36 (47.4 %) (12.9 %)	40 (52.6 %) (6.2 %)	76 (8.2 %)
2,000 - 2,499	11 (22.4 %) (3.9 %)	38 (77.6 %) (5.9 %)	49 (5.3 %)
2,500 - 4,999	60 (45.5 %) (21.4 %)	72 (54.5 %) (11.1 %)	132 (14.2 %)
Column totals	280 (30.2 %)	648 (69.8 %)	

Number of responses 928

X^2. . . . . 50.836

df. 5

TABLE 89

ACTUAL LOSSES: STUDENT CONCERN

Actual Losses	Student Concern Over The Problem of Book Losses: Yes	No	Row Totals
1 - 9	0 (0.0 %) (0.0 %)	9 (100.0 %) (7.6 %)	9 (5.5 %)
10 - 49	7 (19.4 %) (15.6 %)	29 (80.6 %) (24.4 %)	36 (22.0 %)
50 - 99	7 (29.2 %) (15.6 %)	17 (70.8 %) (14.3 %)	24 (14.6 %)
100 - 149	4 (16.7 %) (8.9 %)	20 (83.3 %) (16.8 %)	24 (14.6 %)
150 - 199	2 (15.4 %) (4.4 %)	11 (84.6 %) (9.2 %)	13 (7.9 %)
200 - 299	5 (26.3 %) (11.1 %)	14 (73.7 %) (11.8 %)	19 (11.6 %)
300 - 399	7 (50.0 %) (15.6 %)	7 (50.0 %) (5.9 %)	14 (8.5 %)
400 - 9,999	13 (52.0 %) (28.9 %)	12 (48.0 %) (10.1 %)	25 (15.2 %)
Column totals	45 (27.4 %)	119 (72.6 %)	

Number of responses 164

X^2. . . . . 22.908

df. 7

TABLE 90

STUDENT CONCERN - TYPE OF INSTITUTION

Type Of Institution	Student Concern Over The Problem Of Book Losses, Such As Articles In Student Papers Or The Formation Of Student Committees: Yes	No	Row Totals
Liberal Arts	160 (38.6%) (57.1%)	255 (61.4%) (39.4%)	415 (44.7%)
Universities	10 (45.5%) (3.6%)	12 (54.5%) (1.8%)	22 (2.4%)
Junior Colleges	46 (19.4%) (16.4%)	191 (80.6%) (29.5%)	237 (25.6%)
Teachers Colleges	31 (34.1%) (11.1%)	60 (65.9%) (9.3%)	91 (9.8%)
Technical Schools, Theological or Religious Schools, Fine Arts, and other Professional Schools	32 (21.8%) (11.4%)	115 (78.2%) (17.7%)	147 (15.8%)
Technical Institutes and Semi-Professional Schools	1 (6.2%) (0.4%)	15 (93.8%) (2.3%)	16 (1.7%)
Column Totals	280 (30.2%)	648 (69.8%)	

Total responses 928

x^2 . . . . . 39.24

df 5

TABLE 91

PERCENTAGE OF PART-TIME UNDERGRADUATES: STUDENT CONCERN

Percentage of Part-Time Undergraduates	Student Concern Yes	Student Concern No	Row Totals
1 - 10	118 (37.5 %) (48.6 %)	197 (62.5 %) (38.0 %)	315 (41.4 %)
11 - 25	62 (27.4 %) (25.5 %)	164 (72.6 %) (31.7 %)	226 (29.7 %)
26 - 100	63 (28.6 %) (25.9 %)	157 (71.4 %) (30.3 %)	220 (28.9 %)
Column totals	243 (31.9 %)	518 (68.1 %)	

Number of responses 761

X^2. . . . . 7.900

df. 2

Significant at 5 % level

TABLE 92

EFFECT OF INFORMING COMMUNITY ON CHANGE IN LOSSES - EFFECT OF CONTROL DEVICES ON CHANGE IN LOSSES

Effect Of Informing Community On Change In Losses	Effect Of Control Devices On Change In Losses: Yes	Effect Of Control Devices On Change In Losses: No	Row Totals
Yes	46 (60.5%) (38.7%)	30 (39.5%) (8.6%)	76 (16.2%)
No	73 (18.6%) (61.3%)	320 (81.4%) (91.4%)	393 (83.3%)
Column totals	119 (25.4%)	350 (74.6%)	

Total responses 469

x^2 . . . . . 59.19

df 1

TABLE 93

ATTEMPT TO INFORM COMMUNITY OF PROBLEM OF LOSSES - STUDENT CONCERN

Attempt To Inform Community of Problem Losses	Student Concern		Row Totals
	Yes	No	
Yes	233 (42.4%) (87.6%)	316 (57.6%) (51.2%)	549 (62.2%)
No	33 (9.9%) (12.4%)	301 (90.1%) (48.8%)	334 (37.8%)
Column totals	266 (30.1%)	617 (69.9%)	

Total responses 883

x^2 . . . . . 104.59

df 1

TABLE 94

ATTEMPT TO INFORM COMMUNITY - EFFECT OF INFORMING COMMUNITY ON CHANGE IN LOSSES

Attempt To Inform Community	Effect of Informing Community: Yes	Effect of Informing Community: No	Row Totals
Yes	108 (21.3%) (89.3%)	398 (78.7%) (68.0%)	506 (71.7%)
No	13 (6.5%) (10.7%)	187 (93.5%) (32.0%)	200 (28.3%)
Column totals	121 (17.1%)	585 (82.9%)	

Total responses 706

X^2 . . . . . 22.24

df 1

TABLE 95

STUDENT CONCERN - EFFECT OF INFORMING THE COMMUNITY

Student Concern	Effect of Informing The Community: Yes	Effect of Informing The Community: No	Row Totals
Yes	80 (31.5%) (64.5%)	174 (68.5%) (28.9%)	254 (35.0%)
No	44 (9.3%) (35.6%)	428 (90.7%) (71.1%)	472 (65.0%)
Column totals	124 (17.1%)	602 (82.9%)	

Total responses 726

x^2 . . . . . 57.33

df 1

TABLE 96

ACTUAL LOSSES: PHOTOCOPYING EQUIPMENT IN LIBRARY

Actual Losses	Photocopying Equipment In Library: Yes	Photocopying Equipment In Library: No	Row Totals
1 - 9	2 (22.2%) (2.4%)	7 (77.8%) (8.3%)	9 (5.3%)
10 - 49	14 (37.8%) (16.5%)	23 (62.2%) (27.4%)	37 (21.9%)
50 - 99	8 (32.0%) (9.4%)	17 (68.0%) (20.2%)	25 (14.8%)
100 - 149	14 (53.8%) (16.5%)	12 (46.2%) (14.3%)	26 (15.4%)
150 - 199	6 (46.2%) (7.1%)	7 (53.8%) (8.3%)	13 (7.7%)
200 - 299	13 (65.0%) (15.3%)	7 (35.0%) (8.3%)	20 (11.8%)
300 - 399	11 (78.6%) (12.9%)	3 (21.4%) (3.6%)	14 (8.3%)
400 - 3,000	17 (68.0%) (20.0%)	8 (32.0%) (9.5%)	25 (14.8%)
Column totals	85 (50.3%)	84 (49.7%)	

Number of responses 169

X^2 . . . . . 17.735

df 7

TABLE 97

TOTAL CIRCULATION: AVAILABILITY OF STACKS TO UNDERGRADUATES

Total Circulation[a]	Availability of Stacks to Undergraduates: Stacks Open Except For Rare Books And Special Materials	Entire Stacks Open	Stacks Closed	Row Totals
Less than 10,0..	87 (64.4 %) (15.4 %)	44 (32.6 %) (24.2 %)	4 (3.0 %) (13.3 %)	135 (17.4 %)
10,0.. - 19,9..	120 (71.4 %) (21.2 %)	45 (26.8 %) (24.7 %)	3 (1.8 %) (10.0 %)	168 (21.6 %)
20,0.. - 29,9..	93 (73.8 %) (16.4 %)	31 (24.6 %) (17.0 %)	2 (1.6 %) (6.7 %)	126 (16.2 %)
30,0.. - 49,9..	116 (75.8 %) (20.5 %)	30 (19.6 %) (16.5 %)	7 (4.6 %) (23.3 %)	153 (19.7 %)
50,0.. - 74,9..	74 (75.5 %) (13.1 %)	17 (17.3 %) (9.3 %)	7 (7.1 %) (23.3 %)	98 (12.6 %)
75,0.. - 99,9..	76 (77.6 %) (13.4 %)	15 (15.3 %) (8.2 %)	7 (7.1 %) (23.3 %)	98 (12.6 %)
Column totals	566 (72.8 %)	182 (23.4 %)	30 (3.9 %)	

Number of responses 778

X^2. . . . . 26.773

df. 10

[a]Last two digits dropped in coding, so circulation is in hundreds of volumes.

TABLE 98

ACTUAL LOSSES: TYPE OF INSTITUTIONS

Actual Losses	Type of Institutions: Liberal Arts	University	Junior College	Teachers College	TEC, THEO, FA, OTH[a]	TI, SP[b]	Row Totals
1 - 9	1 (11.1 %) (1.7 %)	0 (0.0 %) (0.0 %)	4 (44.4 %) (5.1 %)	1 (11.1 %) (9.1 %)	2 (22.2 %) (11.8 %)	1 (11.1 %) (33.3 %)	9 (5.3 %)
10 - 49	13 (35.1 %) (22.4 %)	0 (0.0 %) (0.0 %)	17 (45.9 %) (21.8 %)	0 (0.0 %) (0.0 %)	6 (16.2 %) (35.3 %)	1 (2.7 %) (33.3 %)	37 (21.9 %)
50 - 99	3 (12.0 %) (5.2 %)	0 (0.0 %) (0.0 %)	19 (76.0 %) (24.4 %)	1 (4.0 %) (9.1 %)	2 (8.0 %) (11.8 %)	0 (0.0 %) (0.0 %)	25 (14.8 %)
100 - 149	6 (23.1 %) (10.3 %)	0 (0.0 %) (0.0 %)	17 (65.4 %) (21.8 %)	0 (0.0 %) (0.0 %)	3 (11.5 %) (17.6 %)	0 (0.0 %) (0.0 %)	26 (15.4 %)
150 - 199	7 (53.8 %) (12.1 %)	1 (7.7 %) (50.0 %)	3 (23.1 %) (3.8 %)	0 (0.0 %) (0.0 %)	2 (15.4 %) (11.8 %)	0 (0.0 %) (0.0 %)	13 (7.7 %)
200 - 299	11 (55.0 %) (19.0 %)	0 (0.0 %) (0.0 %)	8 (40.0 %) (10.3 %)	1 (5.0 %) (9.1 %)	0 (0.0 %) (0.0 %)	0 (0.0 %) (0.0 %)	20 (11.8 %)
300 - 399	7 (50.0 %) (12.1 %)	0 (0.0 %) (0.0 %)	5 (35.7 %) (6.4 %)	1 (7.1 %) (9.1 %)	1 (7.1 %) (5.9 %)	0 (0.0 %) (0.0 %)	14 (8.3 %)
400 - 9,999	10 (40.0 %) (17.2 %)	1 (4.0 %) (50.0 %)	5 (20.0 %) (6.4 %)	7 (28.0 %) (63.6 %)	1 (4.0 %) (5.9 %)	1 (4.0 %) (33.3 %)	25 (14.8 %)
Column totals	58 (34.3 %)	2 (1.2 %)	78 (46.2 %)	11 (6.5 %)	17 (10.1 %)	3 (1.8 %)	

Number of responses 169
X^2. . . . . 73.160
df. 35

[a]Technological, Theological, Religious, Fine Arts, or other Professional School.

[b]Technical Institute or Semi-Professional School.

APPENDIX C

QUESTIONNAIRE

THE UNIVERSITY OF CHICAGO
CHICAGO 37 · ILLINOIS
GRADUATE LIBRARY SCHOOL

December, 1965

Dear Librarian:

I am doing research at the Graduate Library School of the University of Chicago for my Masters thesis, written under the direction of Professors Herman H. Fussler and Philip H. Ennis. We are examining the problem of book losses through theft in academic libraries. Since the term "book losses" may sometimes include other things, such as mutilation, I want to specify that I'm interested in books actually taken from the library without being charged out.

I hope to use the answers to the questionnaire to obtain an accurate picture of this problem; therefore I will greatly appreciate your attention in filling out the enclosed questionnaire. No mention of your name or school will appear in my study; the information you give will be kept in the strictest confidence. If you would like to see the results of my study, I would be happy to send you a summary of the material I have gathered.

I am especially interested in any trends in losses you have noted over the past fifteen years. In this regard, I ask that you fill out Question 6 Page 3 in as much detail as possible. Most other questions can be answered by circling the number next to the answer category you have selected.

A stamped envelope is enclosed, addressed to the National Opinion Research Center which is processing the returned questionnaires. I would appreciate your completing the questionnaire and returning it to us as quickly as is convenient.

Very truly yours,

Maxine H. Reneker

(Mrs.) Maxine H. Reneker

MHR:rlt
501

1-4

1. Librarians differ in their views about the importance of book losses through theft. Which of the following statements comes closest to your own view?

Book loss is a very serious problem	1	10/0
Book loss is somewhat serious problem	2	
Book loss is not a serious problem.	3	

---

2. Loss of books involves both a financial loss to the library and an intangible loss to other users when the volumes are unavailable to them. Which of these two aspects seems more important to you?

Financial loss to library	1	11/0
Unavailability of volumes	2	

---

3. And which of these statements comes closest to your overall view on the prevention of book losses.

Methods that substantially reduce book loss cost more in time and money than they save.	1	12/0
There are economically feasible ways to substantially reduce book loss.	2	

---

4. Do you now have a regular procedure for ascertaining how many books are lost from your library.

Yes. . (ANSWER Q. 5-6)	1	13/0
No . . (SKIP TO Q. 7).	2	

IF YOU DO HAVE A REGULAR PROCEDURE:

5. What methods do you use to collect this data? (Circle all that apply)

Annual inventory of your entire collection.	1	14/0
Annual inventory of part of your collection	2	
Periodic (but not annual) inventory of your entire collection . .	3	
Periodic (but not annual) inventory of part of your collection. .	4	
Occasional (but not regular) inventory of your entire collection.	5	
Occasional (but not regular) inventory of part of your collection	6	
Estimate (based on_____).	7	
Other (please describe _____).	8	

6. I am interested in discovering any trends in book losses which may have occurred over the past fifteen years. Could you please give as complete and specific figures on your book losses as you have for the period 1950-1965. If possible, give a year-by-year listing of your losses; please specify exact dates of all the figures you give, the procedure by which they were obtained, and the approximate total circulation for that period. For example:

September 1964-September 1965	800 books	Based on an annual inventory	50,000 - circulation for 1964-1965
September 1961-September 1964	1,500 books	Inventory taken after a three year period	130,000- circulation for those three years

Dates	Number of volumes lost	Procedure	Approximate circulation

PLEASE SKIP TO Q. 8

7. IF YOU DO NOT HAVE A REGULAR PROCEDURE FOR ASCERTAINING BOOK LOSSES:

Can you estimate roughly the number of books you loss through theft for the academic year 1964-65?

_____
Estimated number of books lost

EVERYONE PLEASE ANSWER

8. Would you say that during the period 1950 to 1965 book losses in your library have been increasing, decreasing, fluctuating or staying about the same?

Increasing. 1 15/0
Decreasing. 2
Fluctuating 3
Staying about the same. . 4
Don't know. 5

EVERYONE PLEASE ANSWER

9. What devices are used in your library to control book losses? Circle all which apply and indicate dates for those started or discontinued after 1950.

	Circle all That Apply		Date Installed		Date Discontinued	
1. Exit guards (without turnstiles).	1	16/0	_____	17/R	_____	18/R
2. Exit guards (with turnstiles).	2		_____	19/R	_____	20/R
3. Magnetic systems (Magnetized plates in volumes).	3		_____	21/R	_____	22/R
4. Charging desk at entrance to provide visual control . . .	4		_____	23/R	_____	24/R
5. Student body honor system	5		_____	25/R	_____	26/R
6. Other (Circle 6, and describe).	6		_____	27/R	_____	28/R
_____			_____		_____	
_____			_____		_____	
_____			_____		_____	

10. If there is an exit guard, does the inspection generally tend to be thorough or cursory? (If you have any comments you'd like to add please write them to the left of the answer categories.)

Thorough 1 29/0
Cursory. 2
Don't know . . . 3

11. Does your school have a formal or written policy prescribing disciplinary measures and penalties for book thefts?

Yes . .(ANSWER A) 1 30/0
No. . .(GO TO Q.12) . . . 2

IF YES, A: Within the past decade or so, how often have these measures been invoked?

Frequently. 1 31/0
Occasionally. 2
Rarely. 3
Never 4

12. Have any of these control devices or disciplinary measures resulted in any change in losses?

Yes . . .(ANSWER A) . . . 1 32/0
No. . . .(GO TO Q. 13). . 2

IF YES, A: Please specify devices and evidence of change.

(33-34)

13. During the last three years has the library made any attempt to inform the academic community of the problem of book losses?

Yes. . .(ANSWER A & B) 1 35/0
No . . .(GO TO Q. 14) 2

IF YES, A: Which methods have you used? (Circle all that apply.)

Letters to the faculty. 1 36/0
Notices posted in the library 2
Articles in campus newspapers 3
Other (Specify)_____
_____ 4

B: Please describe these methods briefly.

(37-38)

---

14. Has there been student concern over the problem of book losses, such as articles in student papers or the formation of student committees?

Yes. . . (ANSWER A). 1 39/0
No . . .(GO TO Q. 15). 2

IF YES, A: Please describe briefly.

(40-41)

---

15. Is there any evidence that either informing the community or student concern has resulted in any change in book losses or in library policy?

Yes. . . (ANSWER A). 1 42/0
No . . . (GO TO Q. 16) 2

IF YES, A: Please specify which and describe briefly.

(43-44)

---

16. All in all would you say that your library's policies and procedures in regard to book losses have become more, or less restrictive or remained about the same over the past decade?

Policies and procedures have become less restrictive 1 45/0
Policies and procedures have become more restrictive 2
Policies and procedures have remained about the same 3

17. Some librarians think that book loss (and book mutilation) can be reduced by making copying equipment available to library users. Briefly, what is your opinion on this question?

(46/47)

---

18. Do you have photocopying equipment in the library?

Yes. .(ANSWER Q. 19-21). 1 48/0
No . .(ANSWER Q. 22-23 PAGE 7) . . 2

IF YOU DO HAVE PHOTOCOPYING EQUIPMENT:

19. How many machines do you have? _____ Please enter the information requested below for each machine you have in the library.

NAME AND MODEL	DATE ACQUIRED	OPERATED BY	COST PER PAGE TO USER	USED BY (estimate approximate per cent)
		Full-time operator . . . 1 Part-time operator . . . 2 User-operator . . . 3		Students _____ Faculty _____ Library personnel_____ Other (Who?_____)_____
		Full-time operator . . . 1 Part-time operator . . . 2 User-operator . . . 3		Students _____ Faculty _____ Library personnel_____ Other (Who?_____)_____
		Full-time operator . . . 1 Part-time operator . . . 2 User-operator . . . 3		Students _____ Faculty _____ Library personnel_____ Other (Who?_____)_____

---

20. Could you describe, even if only approximately, what kinds of materials are copied (for example, serials versus books) and the number of pages generally copied from each kind of material.

21. Does someone keep records of what is copied on machines run by an operator? (After answering this question, please skip to Q. 24)

Yes	1	49/0
No.	2	
Machines all user-operated. .	3	

IF YOU DO NOT HAVE PHOTOCOPYING EQUIPMENT IN THE LIBRARY:

22. Is there photocopying equipment elsewhere on your campus that can be used to copy books and journals:

Yes . .(ANSWER A)	1	50/0
No. . .(GO TO Q. 23).	2	

IF YES, A: Will you describe briefly the kinds of library materials that are copied, by whom and for what purpose.

(51-52)

---

23. How likely is it that you will acquire photocopying equipment for the library within the next few years?

Very likely	1	53/0
About a 50-50 chance.	2	
Quite unlikely.	3	

EVERYONE PLEASE ANSWER

24. How long have you worked in the library of this school? _____ 54/y

Altogether, about how long have you worked in college or university libraries? _____ 55/y

---

25. A. To whom are the library's stacks open except for rare books and special collections? Circle all that apply in Column A.

B. To whom are the entire stacks open? Circle all that apply in Column B.

C. To whom are the stacks closed. Circle all that apply in Column C.

	A Stacks open except for rare books and special materials		B Entire stacks open		C Stacks closed	
Faculty	1	56/0	. . . 1	57/0	. . 1	58/0
All graduate students	2		. . . 2		. . 2	
Some graduate students.	3		. . . 3		. . 3	
All undergraduate students.	4		. . . 4		. . 4	
Some undergraduate students	5		. . . 5		. . 5	

26. What was your library's circulation for the academic year 1964-65?

Total circulation _____ Reserve _____ Non-reserve_____
(59-60) (61-62) (63-64)

---

27. Approximately what percentage of the student body lives on campus?

_____% 65-66/yy

---

28. Would you like to receive a summary of the data gathered by this study?

Yes. 1 67/0
No 2

Respondent's name _____

Respondent's title_____

Name of Institution:

_____

Thank you very much for your cooperation. If you have any additional comments, please write them in the space below.

BIBLIOGRAPHY

Sources Cited in the Text

American Library Association. Statistics Coordinating Project. Library Statistics: A Handbook of Concepts, Definitions, and Terminology. Chicago: American Library Association, 1966.

The Bowker Annual of Library and Book Trade Information, 1970. New York: Bowker, 1970.

Braden, Irene A. "Pilot Inventory of Library Holdings." ALA Bulletein,,LXII (October, 1968), 1129-1131.

Brown, Madeleine and Kilgour, Federick G. "Disappearance of Unbound Journals." Medical Library Association Bulletin, XLIX (January, 1961), 68-71.

Burke, John Emmett. "Statistical Analysis of a College Library." Peabody Journal of Education, XXXI (July, 1953), 10-21.

Checkpoint Systems. "Current Checkpoint Customers, sheet no. _____." P. 1.

Elser, George C. "Exit Controls and the Statewide Card." College and Research Libraries (May, 1967), pp. 194-196.

"An Exit Control System at the University of Idaho Library." Bookmark, XVI (September, 1963), 1-2.

Greaney, William J. "An Investigation into the Problem of Lost and Damaged Books in the Senior High School Libraries of Suffolk County (New York)." Unpublished Masters thesis, Graduate Library School, Long Island University, 1967.

Green, Helen. "Analysis of the Literature Dealing with Vandalism as Indexed in Library Literature 1953-63." Unpublished Masters thesis, Atlanta University, 1964.

Mersky, R. M. and J. David. "Select Annotated Bibliographies on Library Floor Covering and Library Security, 1940-67." Law Library Journal, LXI (May, 1968), 108-114.

Morrison, Perry D. "Lost Book Campaign at Sacramento." Wilson Library Bulletin, XL (February, 1966), 526-529.

Oboler, Eli M. "The Accuracy of Federal Academic Library Statistics." College and Research Libraries (November, 1964), pp. 494-496.

Quick, Mary. "A Proposed Program for Reducing Book Losses." Unpublished Masters thesis, School of Graduate Studies, Western Michigan University, 1964.

Rastogi, V. S. "The Library and the Loss of Books." Indian Librarian, XVII (June, 1962), 27-32.

Roberts, Matt. "Guards, Turnstiles, Electronic Devices, and the Illusion of Security." College and Research Libraries (July, 1968), pp. 259-275.

Security Digest, Vol. I (1969), Cleveland, 1969.

"60-College Security Study Finds Few Satisfied." Library Journal, XCIII (May 1, 1968), 1848.

U.S. Office of Education. Library Statistics of Colleges and Universities, 1963-64 Institutional Data. Washington: Government Printing Office, 1965.

U.S. Office of Education. Library Statistics of Colleges and Universities 1963-64. Analytic Report by Theodore Samore. Washington: Government Printing Office, 1968.

U.S. Office of Education. Library Statistics of Colleges and Universities, 1963-64: Supplement. Chicago: American Library Association, 1965.

Van Every, Joan. "Is It Worth Doing Anything About Book Losses?" Library Journal, LXXXVII (September 1, 1962), 2842-2846.

Vinnes, Norman. "A Search for Meaning in Book Theft." School Libraries (Spring, 1969), pp. 25-27.

Weyhrauch, Ernest E. and Thurman, Mary. "Turnstiles, Checkers, and Library Security." Southeastern Librarian, XVIII (Summer, 1968), 111-116.

Background Sources Not Specifically Cited

Emerson, William L. "The Theft and Mutilation of Books." Library Journal, LXXXV (January 15, 1960), 208-209.

Emerson, William L. "To Guard or Not to Guard." Library Journal, LXXXIV (January 15, 1959), 145-146.

Hillman, Marnell. "The Case of the Missing Books." California School Librarian, XXXVII (May, 1966), 4-7.

Hoppe, Ronald A. and Edward C. Simmel. "Book Tearing and the Bystander in the University Library." College and Research Libraries (May, 1969), pp. 247-251.

Ippolito, Andrew. "The Electronic Frisk." Odds and Book Ends, XLVI (Fall, 1964), 7-9.

Kumar, Virendra. "Pilfering and Mutilation in Libraries." Library Herald, VI (April, 1963), 37-41.

Line, Maurice B. "Some Notes on Book Stealing." Library Association Record, LXXI (April, 1969), 115-116.

McConkey, Thomas W. "Electronic Security Systems." Library Journal, LXXXVII (October 1, 1962), 3421-3423.

"Poll on Library Security Refutes Newspaper Attacks." Library Journal, XC (April 1, 1969), 1408.

Raftery, Gerald. "Why Kids Steal Books." Library Journal, LXXXIV (May 15, 1959), 1639-1641.

"To Minimize Book Theft." Bookmark, XVII (September, 1964), 1-2.

Zimmerman, Lee. "Pilfering and Mutilating Library Books." Library Journal, LXXXVI (October 15, 1961), 3337-3340.